VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a **MAJOR, MUNICIPAL** permit.

1. **PERMIT NO.**: VA0081272 **EXPIRATION DATE**: 1/27/2013

2. **FACILITY NAME AND LOCAL MAILING ADDRESS**

Hampton Roads Sanitation District
James River STP
1436 Air Rail Ave
Virginia Beach, VA 23455

FACILITY LOCATION ADDRESS (IF DIFFERENT)

111 City Farm Road
Newport News, VA 23602

CONTACT AT FACILITY:
NAME: Jamie Heisig-Mitchell
TITLE: Chief of Technical Services
PHONE: (757) 460-4220

CONTACT AT LOCATION ADDRESS
NAME: N/A
TITLE:
PHONE:

3. **OWNER CONTACT**: (TO RECEIVE PERMIT)
NAME: Mr. Edward G. Henifin
TITLE: General Manager
COMPANY NAME: HRSD
ADDRESS: 1436 Air Rail Ave
Virginia Beach, VA 23455

PHONE: (757) 460-2261

CONSULTANT CONTACT:
NAME: N/A
FIRM NAME:
ADDRESS:

PHONE: ( )

4. **PERMIT DRAFTED BY**: DEQ, Water Permits, Regional Office

Permit Writer(s): Deanna Austin DA Date(s): 4/17/12-5/4/12
Reviewed By: Mark Sauer MS Date(s): 5/15/12

5. **PERMIT ACTION:**

( ) Issuance (X) Reissuance ( ) Revoke & Reissue ( ) Owner Modification
( ) Board Modification ( ) Change of Ownership/Name [Effective Date:]

6. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS**:

Attachment 1	Site Inspection Report/Memorandum
Attachment 2	Discharge Location/Topographic Map
Attachment 3	Schematic/Plans & Specs/Site Map/Water Balance
Attachment 4	TABLE I - Discharge/Outfall Description
Attachment 5	TABLE II - Effluent Monitoring/Limitations
Attachment 6	Effluent Limitations/Monitoring Rationale/Suitable Data/Antidegradation/Antibacksliding
Attachment 7	Special Conditions Rationale
Attachment 8	Toxics Monitoring/Toxics Reduction/WET Limit Rationale
Attachment	Material Stored
Attachment 9	Receiving Waters Info./Tier Determination/STORET Data/Stream Modeling
Attachment 9	303(d) Listed Segments
Attachment 10	TABLE III(a) and TABLE III(b) - Change Sheets
Attachment 11	NPDES Industrial Permit Rating Worksheet and EPA Permit Checklist
Attachment 12	Chronology Sheet
Attachment	Public Participation

APPLICATION COMPLETE: VDH Response 4/26/12 DSS 5/2/12

PERMIT CHARACTERIZATION: (Check as many as appropriate)

(X) Existing Discharge	(X) Effluent Limited
( ) Proposed Discharge	(X) Water Quality Limited
(X) Municipal	( ) WET Limit
SIC Code #4952	( ) Interim Limits in Permit
( ) Industrial	( ) Interim Limits in Other Document
SIC Code(s)	( ) Compliance Schedule Required
(X) POTW	( ) Site Specific WQ Criteria
( ) PVOTW	( ) Variance to WQ Standards
( ) Private	( ) Water Effects Ratio
( ) Federal	(X) Discharge to 303(d) Listed Segment
( ) State	(X) Toxics Management Program Required
( ) Publicly-Owned Industrial	( ) Toxics Reduction Evaluation
	( ) Storm Water Management Plan
	(X) Pretreatment Program Required
	( ) Possible Interstate Effect
	(X) CBP Significant Dischargers List

8. **RECEIVING WATERS CLASSIFICATION**: River basin information.

Outfall No: 001-007

Receiving Stream: Warwick River to James River
River Mile: 2-WWK0002.12
Basin: James River (Lower)
Subbasin: N/A
Section: 1
Class: II
Special Standard(s): a, bb
Tidal: YES
7-Day/10-Year Low Flow: N/A
1-Day/10-Year Low Flow: N/A
30-Day/5-Year Low Flow: N/A
Harmonic Mean Flow: N/A

9. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing municipal discharge resulting from the discharge of treated domestic sewage.

10. **LICENSED OPERATOR REQUIREMENTS**: ( ) No (X) Yes Class: I

11. **RELIABILITY CLASS**: I

12. **SITE INSPECTION DATE**: 5/18/11 **REPORT DATE**: 5/19/11

Performed By: Mark Kidd

SEE ATTACHMENT 1

13. **DISCHARGE(S) LOCATION DESCRIPTION**: Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Mulberry Island Quadrant No.: 066D **SEE ATTACHMENT 2**

14. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

Narrative: This facility provides secondary treatment and is scheduled for enhanced nutrient removal in late 2012 early 2013. Treatment is provided by screening, grit removal, primary clarification, aeration, secondary clarification, chlorination and dechlorination. Biosolids are handled by off-site composting by McGill. Secondary disposal methods include incineration at another HRSD facility or landfill disposal at Bethel Landfill.

SEE ATTACHMENT 3

15. **DISCHARGE DESCRIPTION**: Describe each discharge originating from this facility.

SEE **TABLE I** (OR CAN SUBSTITUTE PAGE 2C) - **SEE ATTACHMENT 4**

16. **COMBINED TOTAL FLOW**:

TOTAL: 20 MGD (for public notice)

PROCESS FLOW: _____ MGD (IND.)

NONPROCESS/RAINFALL DEPENDENT FLOW: 0.009 (Est.)

DESIGN FLOW: 20 MGD (MUN.)

17. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS**: (Check all which are appropriate)

- [X] State Water Control Law
- [X] Clean Water Act
- [X] VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- [X] EPA NPDES Regulation (Federal Register)
- [ ] EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
- [X] Water Quality Standards (9 VAC 25-260-5 et seq.)
- [ ] Wasteload Allocation from a TMDL or River Basin Plan

18. **EFFLUENT LIMITATIONS/MONITORING**: Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE**: Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

No variances were given during this permit reissuance.

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).
SEE ATTACHMENT 6

20. **SPECIAL CONDITIONS RATIONALE**: Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE**: Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit.

SEE ATTACHMENT 8

22. **SLUDGE DISPOSAL PLAN**: Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Biosolids are composted offsite buy McGill. Incineration at other HRSD facilities or land filling at Bethel Landfill are the secondary disposal methods.

23. **MATERIAL STORED**: List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

The materials stored on site include sodium hypochlorite, sodium bisulfate, sodium hydroxide, ferric chloride, polymer, fuel oil, propane, ammonia, muriatic acid, gasoline and diesel fuel. The materials are either stored in buildings with drains connected to the treatment system or are in contained areas. Fuel tanks are double walled.

24. **RECEIVING WATERS INFORMATION**: Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.). **Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied.** Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 9

25 **305(b)/303(d) Listed Segments**: Indicate if the facility discharges to a segment that is listed on the current 303(d) list and, if so, provide all appropriate information/calculations.

This facility discharges directly to the Warwick River. This receiving stream segment has been listed in Category 5 of the 305(b)/303(d) list for non-attainment of DO and PCBs. EPA approved the Chesapeake Bay TMDL on 12/29/10 for this segment. The facility is listed in the TMDL as a non-significant discharger. Because an aggregated WLA exists, this permit did not receive an individual WLA.
A Fecal Bacterial TMDL was approved by EPA on 2/29/08. A WLA was assigned, however, the 2010 Integrated Assessment Report removed Shellfish harvesting Use from this segment. Although removed, the WLA is still met with the permit limits that are assigned in the permit.
A PCB TMDL for the tidal James River has an anticipated completion date of 2014.

26. **CHANGES TO PERMIT**: Use **TABLE III(a)** to record any changes from the previous permit and the rationale for those changes. Use **TABLE III(b)** to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 10

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

N/A - This is a municipal facility.

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT**: Document any comments received from DEQ planning.

The discharge is addressed in the Virginia Water Quality Management Plan (VAC25-720-60C). Limits for TN and TP are in the plan. TN and TP limits are met under the Nutrient GP bubble permit for the James River (VAN040090).

29. **PUBLIC PARTICIPATION**: Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and the Div. of Shellfish Sanitation and noted how resolved.

The VDH reviewed the application and waived their right to comment and/or object on the adequacy of the draft permit. Memo received 4/26/12.

The DSS has no comments on the application/draft permit. Memo received 5/2/12.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA has no objections to the adequacy of the draft permit. Email received 6/29/12.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

Not Applicable.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

DESCRIBE PN COMMENTS AND RESOLUTIONS. PROVIDE PUBLIC HEARING DATE AND REFERENCE BACKGROUND MEMORANDUM, IF APPROPRIATE.

PUBLIC NOTICE INFORMATION: Comment Period: Start Date 5/31/12
End Date 7/2/12

Persons may comment in writing or by e-mail to the DEQ on the proposed issuance/reissuance/modification of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Deanna Austin at: Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462. Telephone: 757-518-2008 E-mail:deanna.austin@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed issuance/reissuance/modification. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. **ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:**

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Facility:	HRSD – JAMES RIVER
County/city:	NEWPORT NEWS, VA

VPDES NO.	VA0081272

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date:	**May 18, 2011**	Date form completed:	**May 19, 2011**
Inspection by:	**Mark R. Kidd**	Inspection agency:	**DEQ/TRO**
Time spent:	**8 hours**	Announced Inspection:	[ ] Yes [✓] No
Reviewed by: **Kenneth T. Raum** KTR		Photographs taken at site?	[✓] Yes [ ] No
Present at inspection:	**Rob Luma – Plant Superintendant**		

FACILITY TYPE:	FACILITY CLASS:
(✓) Municipal	(✓) Major
( ) Industrial	( ) Minor
( ) Federal	( ) Small
( ) VPA/NDC	( ) High Priority ( ) Low Priority

TYPE OF INSPECTION:

Routine	✓	Reinspection		Compliance/assistance/complaint	

Date of previous inspection:	**5/29/2008**	Agency:	**DEQ/TRO**

Population Served:		Connections Served	

Last Month Average: Influent: **April 2011**	BOD_5 (mg/l)	**253**	TSS (mg/l)	**43.2**	Flow (MGD)	**12.03**	TP (mg/l)	**5.7**
	Other:							
Last Month Average: Effluent: **April 2011**	BOD_5 (mg/l)	**5**	TSS (mg/l)	**5**	Flow (MGD)	**12.03**	TP (mg/l)	**0.74**
	Other:							
Last Quarter Average: Effluent **1ST Q 2011**	BOD_5 (mg/l)	**10**	TSS (mg/l)	**8.4**	Flow (MGD)	**12.85**	TP (mg/l)	**0.84**
	Other:							

Data verified in preface:	Updated?	✓	NO CHANGES?	

Has there been any new construction?	YES	✓	NO	
If yes, were the plans and specifications approved?	YES	✓	NO	
DEQ approval date:				

COPIES TO: (✓) DEQ/TRO; (✓) DEQ/OWCP; (✓) OWNER; ( ) OPERATOR; ( ) EPA-Region III; ( ) Other:

PLANT OPERATION AND MAINTENANCE													
1.	Class/number of licensed operators:	I	13	II		III	2	IV		Trainee			
2.	Hours per day plant manned?	24 hrs/day											
3.	Describe adequacy of staffing	GOOD	✓	AVERAGE		POOR							
4.	Does the plant have an established program for training personnel	YES	✓	NO									
5.	Describe the adequacy of training	GOOD	✓	AVERAGE		POOR							
6.	Are preventative maintenance tasks scheduled	YES	✓	NO									
7.	Describe the adequacy of maintenance	GOOD	✓	AVERAGE		POOR							
8.	Does the plant experience any organic/hydraulic overloading?	YES		NO	✓								
	If yes, identify cause/impact on plant												
9.	Any bypassing since last inspection?	YES		NO	✓								
10.	Is the standby electrical generator operational?	YES	✓	NO		NA							
11.	How often is the standby generator exercised?	Monthly – 2 hrs											
	Power transfer switch?	Monthly		ALARM SYSTEM?	Monthly								
12.	When was the cross connection last tested on the potable supply?	7/16/2010											
13.	Is the STP alarm system operational?	YES	✓	NO		NA							
14.	Is sludge disposed in accordance with an approved SMP	YES	✓	NO		NA							
15.	Is septage received by the facility?	YES		NO	✓								
	Is septage loading controlled?	YES		NO		NA	✓						
	Are records maintained?	YES		NO		NA	✓						

OVERALL APPEARANCE OF FACILITY	GOOD		AVERAGE	✓	POOR	

COMMENTS:	

PLANT RECORDS

	WHICH OF THE FOLLOWING RECORDS DOES THE PLANT MAINTAIN?							
	Operational logs for each process unit	YES	✓	NO		NA		
	Instrument maintenance and calibration	YES	✓	NO		NA		
	Mechanical equipment maintenance	YES	✓	NO		NA		
1.	Industrial waste contribution (municipal facilities)	YES	✓	NO		NA		

	WHAT DOES THE OPERATIONAL LOG CONTAIN					
	Visual Observations	✓	Flow Measurement	✓	Laboratory Results	✓
2.	Process Adjustments	✓	Control Calculations	✓	Other?	

COMMENTS:

	WHAT DO THE MECHANICAL EQUIPMENT RECORDS CONTAIN?					NA	
	MFG. Instructions	✓	As Built Plans/specs	✓	Spare Parts Inventory		✓
3.	Lube Schedules	✓	Other?		Equipment/parts Suppliers		✓

COMMENTS:

	WHAT DO INDUSTRIAL WASTE CONTRIBUTION RECORDS CONTAIN? (MUNICIPAL)				NA	
	Waste Characteristics	✓	Impact on Plant			✓
4.	Location and Discharge Types	✓	Other?			

COMMENTS:

	WHICH OF THE FOLLOWING RECORDS ARE AT THE PLANT & AVAILABLE TO PERSONNEL?						NA	
	Equipment Maintenance Records	✓	Industrial Contributor Records					
5.	Operational Log	✓	Sampling/testing Records	✓	Instrumentation Records			✓
6.	Records not normally available to personnel at their location:	**Industrial Contributor Records**						
7.	Were the records reviewed during the inspection					YES	✓	NO
8.	Are records adequate and the O&M manual current?					YES	✓	NO
9.	Are the records maintained for the required 3-year time period					YES	✓	NO

COMMENTS: **O&M Manual updated in 2007. Scheduled for update after plant upgrades completed.**

SAMPLING									
1.	Are sampling locations capable of providing representative samples?					YES	✓	NO	
2.	Do sample types correspond to VPDES permit requirements?					YES	✓	NO	
3.	Do sampling frequencies correspond to VPDES permit requirements?					YES	✓	NO	
4.	Does plant maintain required records of sampling?					YES	✓	NO	
5.	Are composite samples collected in proportion to flow?	YES	✓	NO		NA			
6.	Are composite samples refrigerated during collection?	YES	✓	NO		NA			
7.	Does the plant run operational control tests?	YES	✓	NO		NA			
COMMENTS:									

TESTING							
	Who performs the testing?	Plant	✓	Central Lab	✓	Commercial Lab	
1.	Name: **HRSD Central Laboratory**						
IF THE PLANT PERFORMS ANY TESTING, PLEASE COMPLETE QUESTIONS 2-4							
2.	Which total residual chlorine method is used?	**HACH Colorimetric**					
3.	Does plant appear to have sufficient equipment to perform required tests?	YES	✓	NO			
4.	Does testing equipment appear to be clean and/or operable?	YES	✓	NO			
COMMENTS:							

FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY								
1.	Is the production process as described in permit application? If no, describe changes in comments section.	YES		NO		NA	✓
2.	Are products/production rates as described in the permit application? If no list differences in comments section.	YES		NO		NA	✓
3.	Has the Agency been notified of the changes and their impact on plant effluent? Date agency notified:	YES		NO		NA	✓
COMMENTS:								

	PROBLEMS IDENTIFIED AT LAST INSPECTION:	CORRECTED	NOT CORRECTED
	None.		

SUMMARY

	INSPECTION COMMENTS:
	I arrived on site and met with Plant Superintendant Rob Luma. A site survey was conducted with the assistance of Mr. Luma with the following noted: 1. Plant upgrades are ongoing with IFAS system upgrades installed to provide for increased denitrification (Photos 7-10). 2. Step screens have replaced the older screens for increased removal of solids and oil/fat globules (Photos 2&3). 3. Overall, the plant appeared clean and well maintained.
	Mr. Luma is thanked for his assistance and cooperation during the inspection.

	COMPLIANCE RECOMMENDATIONS FOR ACTION
	None at this time.

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART II

Unit Process Evaluation Summary Sheet*

UNIT PROCESS	APPLICABLE	COMMENTS
SEWAGE PUMPING		
FLOW MEASUREMENT	✓	
SCREENING/COMMINUTION	✓	
GRIT REMOVAL	✓	
FLOW EQUALIZATION		
PONDS/LAGOONS		
OIL/WATER SEPARATOR		
PRIMARY SEDIMENTATION	✓	
ACTIVATED SLUDGE AERATION	✓	
TRICKLING FILTERS		
ROTATING BIOLOGICAL CONTACTORS		
SEPTIC TANK/SAND FILTER / IMHOFF TANK		
SECONDARY SEDIMENTATION	✓	
RAPID MIX/FLOCCULATION		
TERTIARY SEDIMENTATION		
FILTRATION	✓	
MICRO-SCREENING		
ACTIVATED CARBON ADSORPTION		
CHLORINATION	✓	
DECHLORINATION	✓	
OZONATION		
ULTRAVIOLET DISINFECTION		
POST AERATION		
LAND APPLICATION-EFFLUENT		
EFFLUENT/PLANT OUTFALL	✓	
SLUDGE PUMPING	✓	
FLOTATION THICKENING (DAF)		
GRAVITY THICKENING	✓	
AEROBIC DIGESTION		
ANAEROBIC DIGESTION	X	
LIME STABILIZATION		
CENTRIFUGATION	✓	
PRESSURE FILTRATION (SLUDGE)		
VACUUM FILTRATION		
DRYING BEDS		
THERMAL TREATMENT		
INCINERATION		
COMPOSTING		
LAND APPLICATION-SLUDGE		

STANDARD COMMENTS:

1. UNIT NEEDS ATTENTION
2. ABNORMAL INFLUENT/EFFLUENT
3. EVIDENCE OF EQUIPMENT FAILURE
4. UNAPPROVED MODIFICATION OR TEMPORARY REPAIR
5. EVIDENCE OF PROCESS UPSET

*REFER TO INDIVIDUAL UNIT PROCESS EVALUATION FORM

UNIT PROCESS:	FLOW MEASUREMENT

	INFLUENT	✓	INTERMEDIATE		EFFLUENT		YES	NO	NA
1.	Type of measuring device			**Venturi Meter**					
2.	Present reading?			**15.7 MGD**					
3.	Bypass channel							✓	
4.	Bypass channel metered?								✓
	Return flow discharged upstream of the meter?							✓	
5.	Identify:								
6.	Device operating properly?						✓		
7.	Date of last calibration?			**3/17/2011**					
	EVIDENCE OF THE FOLLOWING PROBLEMS								
	Obstruction?							✓	
8.	Grease?							✓	

COMMENTS:	**Final effluent is not metered. Flow entering and exiting the plant is believed to be equal.**

UNIT PROCESS:	SCREENINGS/COMMINUTION

			YES	NO	NA
1.	Number of manual units	0			
2.	Number of mechanical units	3			
3.	Number manual units in operation	0			
4.	Number of mechanical units in operation	2			
	Bypass channel provided		✓		
5.	Bypass channel in use			✓	
6.	Area adequately ventilated		✓		
7.	Alarm system for equipment failure and/or overloads		✓		
8.	Proper flow distribution between units		✓		
9.	How often are units checked and cleaned	**Several times per shift**			
10.	Cycle of operation	**Continuous**			
11.	Volume of screenings removed	**Average screening removal for April 2011= 20 ft^3 / day**			

COMMENTS:	**New step screens are in place. (Photos 2&3)**

UNIT PROCESS:	GRIT REMOVAL

							YES	NO	NA
1.	Number of units				4				
2.	Number units in operation				4				
3.	Operation of grit collection equipment:								
		Manual	✓	Time Clock		Continuous Duty			
4.	Area adequately ventilated						✓		
5.	Proper flow distribution between units						✓		
6.	Daily volume of grit removed				**Average grit removal for April 2011 = 16 ft^3 / day**				
7.	All equipment operable						✓		

COMMENTS:	**Photo 1.**

UNIT PROCESS:	**Sedimentation**

	PRIMARY	✓	SECONDARY		TERTIARY			YES	NO	NA
1.	Number of units				**4**					
2.	Number units in operation				**4**					
3.	Proper flow distribution between units							✓		
4.	Sludge collection system working properly?							✓		
5.	Signs of short circuiting and/or overloads									✓
6.	Effluent weirs level									✓
7.	Effluent weirs clean									✓
8.	Scum collection system working properly									✓
9.	Influent/effluent baffle system working properly									✓
10.	Chemical Used		**Fe3**			Chemical Addition		✓		
11.	Effluent characteristics									✓

COMMENTS:	**#5 - #9, #11. Primary sedimentation units are covered. (Photo 4)**

UNIT PROCESS:	SLUDGE PUMPING FROM PRIMARY CLARIFIER

										YES	NO	NA
1.	Number of pumps				3							
2.	Number pumps in operation				2							
3.	TYPE OF SLUDGE PUMPED:											
	Primary	✓	Waste Activated			Other:						
	Secondary		Return Activated			Combination						
4.	TYPE OF PUMP:	Plunger		Diaphragm								
	Centrifugal:		Screwlift		Prog. Cavity	✓	Other:					
5.	MODE OF OPERATION:	Manual		Automatic	✓	Other:						
6.	Sludge volume pumped:	AVERAGE FOR APRIL 2011= 0.620 GAL/DAY										
7.	Alarm system for equipment failures/overloads operational?									✓		

COMMENTS:	**#6. Primary sedimentation solids are sent to the gravity thickener.**

UNIT PROCESS:	SEDIMENTATION

	PRIMARY		SECONDARY	✓	TERTIARY			YES	NO	NA
1.	Number of units				5					
2.	Number units in operation				3					
3.	Proper flow distribution between units							✓		
4.	Sludge collection system working properly?							✓		
5.	Signs of short circuiting and/or overloads									✓
6.	Effluent weirs level							✓		
7.	Effluent weirs clean							✓		
8.	Scum collection system working properly							✓		
9.	Influent/effluent baffle system working properly							✓		
10.	Chemical Used		**Ferric and Polymer**			Chemical Addition		✓		
11.	Effluent characteristics		CLEAR AND COLORLESS							

COMMENTS:	**#1. The units are peripheral feed center weir. (Photo 11)**

UNIT PROCESS:	SLUDGE PUMPING FROM SECONDARY CLARIFIER

										YES	NO	NA
1.	Number of pumps				6							
2.	Number pumps in operation				3							
3.	TYPE OF SLUDGE PUMPED:											
	Primary		Waste Activated		✓	Other:						
	Secondary		Return Activated			Combination						
4.	TYPE OF PUMP:		Plunger		Diaphragm							
	Centrifugal	✓	Screwlift		Prog. Cavity		Other:					
5.	MODE OF OPERATION:		Manual		Semi-Automatic	✓	Other:					
6.	Sludge volume pumped:		**Average WAS pumped for April 2011= .468 MGD**									
7.	Alarm system for equipment failures/overloads operational?									✓		

COMMENTS:	

UNIT PROCESS:	ACTIVATED SLUDGE

			YES	NO	NA
1.	Number of aeration units	9			
2.	Number units in operation	6-8			
3.	Mode of operation:	Plug Flow			
4.	Proper flow distribution between units		✓		
5.	Foam control operational		✓		
6.	Scum control present		✓		
7.	Dead spots			✓	
8.	Excessive foam			✓	
9.	Poor aeration			✓	
10.	Excessive scum			✓	
11.	Aeration equipment malfunction			✓	
12.	Other problem(s):			✓	
13.	Effluent control devices working properly (OXIDATION DITCHES)				✓

14. MIXED LIQUOR CHARACTERISTICS AS AVAILABLE:

pH (s.u.)	7.0	MLSS (mg/l)	2510	DO (mg/l)		SVI	
Odor	NONE	Settleability (ml/l)		622 ml/L – 30 min.		SDI	
Color	Light Brown						

15.	RETURN/WASTE SLUDGE RATES:					
	Return Rate	**10.87 MGD 76%**	Waste Rate		Waste Frequency	**VARIES**
16.	AERATION SYSTEM CONTROL:					
	Time Clock		Manual Feed		Continuous Feed	✓
	Other:					

COMMENTS:	**#14 - # 15. Data from April 2011 Monthly Operations Report. (Photos 7-10)**

UNIT PROCESS:	FILTRATION

									YES	NO	NA
1.	Type of filters	Gravity	✓	Pressure		Intermittent					
2.	Number of units	2									
3.	Number units in operation	1									
	Operation of system	Other: (specify)									
4.	Automatic		Semi-automatic	✓	Manual						
5.	Proper flow distribution between units										✓
	EVIDENCE OF THE FOLLOWING PROBLEMS?										
	Uneven flow distribution?									✓	
	Filter clogging?									✓	
	Nozzle clogging?									✓	
	Icing?									✓	
	Filter flies?									✓	
6.	Vegetation on filter?									✓	
	Filter aid system provided?								✓		
	Properly operating?								✓		
7.	Chemical used:										✓
8.	Automatic valves operating properly?										✓
9.	Backwash system operating properly?										✓
10.	Filter building adequately ventilated?								✓		
11.	Effluent characteristics?	**Clear and colorless**									

COMMENTS:	

UNIT PROCESS:	SLUDGE PUMPING FROM GRAVITY BELT THICKENER

											YES	NO	NA
1.	Number of pumps				2								
2.	Number pumps in operation				1								
3.	TYPE OF SLUDGE PUMPED:												
	Primary		Waste Activated			Other:	✓						
	Secondary		Return Activated			Combination							
4.	TYPE OF PUMP:	Plunger		Diaphragm									
	Centrifugal:		Screwlift		Prog. Cavity	✓	Other:						
5.	MODE OF OPERATION:	Manual		Automatic	✓	Other:							
6.	Sludge volume pumped:	**Average sludge pumped for April 2011= 0.049 MGD**											
7.	Alarm system for equipment failures/overloads operational?										✓		

COMMENTS:	**#3. Gravity belt thickener sludge.**

UNIT PROCESS:	GRAVITY THICKENER

									YES	NO	NA
1.	Number of units				2						
2.	Number units in operation				1						
3.	Type of sludge treated:					Combination					
	Primary	✓	Waste Activated			Other:					
4.	Sludge fed how?			Continuous	✓	Intermittent					
5.	Solids concentration in the influent sludge										
	Solids concentration in the thickened sludge				4.4% TS in Thickened Biosolids						
6.	Signs of short-circuiting and/or overloading?										✓
7.	Effluent weirs level?										✓
8.	Sludge collection system working properly?										✓
9.	Influent/effluent baffle systems working properly?										✓
10.	Chemical addition?								✓		
	Chemical used?		C6266		Dosage?		52 lbs/day				

COMMENTS:	**#5 & #10. Data from April 2011 Monthly Operations Report.** **#6 - #9. Gravity thickening operations covered.**

UNIT PROCESS:	SLUDGE PUMPING FROM GRAVITY THICKENER

										YES	NO	NA
1.	Number of pumps				**2**							
2.	Number pumps in operation				**1**							
3.	TYPE OF SLUDGE PUMPED:											
	Primary		Waste Activated			Other:	✓					
	Secondary		Return Activated			Combination						
4.	TYPE OF PUMP:	Plunger		Diaphragm								
	Centrifugal:		Screwlift		Prog. Cavity	✓	Other:					
5.	MODE OF OPERATION:	Manual		Automatic	✓	Other:						
6.	Sludge volume pumped:	**Average sludge pumped for April 2011= 0.036 MGD**										
7.	Alarm system for equipment failures/overloads operational?									✓		

COMMENTS:	**#3. Gravity thickener sludge to digester.**

UNIT PROCESS:	ANAEROBIC DIGESTION

										YES	NO	NA
1.	Number of units							2				
2.	Number units in operation							2				
	TYPE OF SLUDGE TREATED:											
3.	Primary	✓	Waste Activated	✓	Other:							
	TYPE OF DIGESTER:											
4.	Primary:	✓	Standard Rate	✓	High Rate		Secondary					
5.	Frequency of sludge application to digester(s):						VARIES					
6.	pH Adjustment provided?										✓	
7.	pH adjustment utilized?											✓
8.	Number of recirculation pumps						2					
9.	Number recirculation pumps in operation						1					
	LOCATION OF SUPERNATANT RETURN:											
10.	Head		Primary		Other: **Holding Tank**	✓						
11.	Supernatant return rate:				N/A							
	PROCESS CONTROL TESTING:											
12.	pH (s.u.)	#1 – 7.2 / #2 – 7.3										
	Volatile Acids (mg/l)	#1 – 92 / #2 - 117										
	Alkalinity (mg/l)	#1 – 5000 / #2 - 4700										
	Volatile Solids Reduction (%)	#1 – 66 / #2 - 66										
	Temperature (°F)	#1 – 98 / #2 - 97										
13.	Sludge retention time? (days)	#1 – 32 / #2 - 31										
14.	Gas production rate? (1000 ft^3)	#1 – 59 / #2 – 36										
15.	Signs of overloading?										✓	

COMMENTS:	#1. Fixed cover. #11 - #14. Digester number one is denoted by #1 and digester number two is denoted by #2. Data from April 2011 Monthly Operations Report.

UNIT PROCESS:	SLUDGE PUMPING FROM HOLDING TANK TO CENTRIFUGE

										YES	NO	NA
1.	Number of pumps				3							
2.	Number pumps in operation				1							
3.	TYPE OF SLUDGE PUMPED:											
	Primary		Waste Activated			Other: **Centrifuge feed**	X					
	Secondary		Return Activated			Combination						
4.	TYPE OF PUMP:	Plunger		Diaphragm								
	Centrifugal:		Screwlift		Prog. Cavity	✓	Other:					
5.	MODE OF OPERATION:	Manual		Automatic	✓	Other:						
6.	Sludge volume pumped:	**Average sludge pumped for April 2011= 0.109 MGD**										
7.	Alarm system for equipment failures/overloads operational?									??		

COMMENTS:	

UNIT PROCESS:	CENTRIFUGATION

								YES	NO	NA
1.	Number of units				3					
2.	Number units in operation				1					
3.	PURPOSE OF CENTRIFUGE									
	Thickening		Dewatering	✓	Other:					
4.	OPERATION OF EQUIPMENT									
	Manual	✓	Automatic		Other:					
5.	Centrifuge run time			Approximately five days per week						
6.	Volume of influent sludge flow			0.109 MGD						
7.	Amount of cake produced: (lbs/day)			22,500 lbs/day						
8.	SLUDGE SOLIDS									
	Influent (%)	2.60	Effluent (%)	24.4						
9.	Conditioning chemical fed:			SE 746						
10.	Conditioning chemical dose:			469 lbs/day						
11.	Centrate return location:			See comments below						
12.	Signs of centrate return problems?								✓	

COMMENTS:	**#6 - #8, #10. Data from April 2011 Monthly Operations Report.** **#7. Sludge is transported for composting.** **#11. Centrate returned to the #1 aeration unit, which is being used as a centrate equalization tank and for nitrification.** **Photo 6.**

UNIT PROCESS:	CHLORINATION

			YES	NO	NA
1.	Number of hypochlorite tanks?	4			
2.	Number of pumps?	6			
3.	Number of pumps in operation?	1			
4.	Number of evaporators in operation?	N/A			
5.	Number chlorine contact tanks?	3			
6.	Number chlorine contact tanks in operation?	3			
7.	Proper flow distribution between units?		✓		
8.	HOW IS CHLORINE INTRODUCED INTO THE WASTE STREAM?				
	Perforated Diffuser				
	Injector w/single entry point	✓			
	Tablet Feeder				
9.	Chlorine residual in contact basin effluent (mg/l)	0.70 – 1.42			
10.	Applied chlorine dosage (lbs/day)	276 lbs/day			
11.	Contact basin adequately baffled?		✓		
12.	Adequate ventilation in chlorine cylinder storage area?				✓
14.	Adequate ventilation in chlorine equipment room?		✓		
15.	Proper safety precautions used?		✓		

COMMENTS:	**#8. A flash mixer is used by the facility.** **#9 - #10. Data from April 2011 Monthly Operations Report.**

UNIT PROCESS:	DECHLORINATION

									YES	NO	NA
	Dechlorination chemical used?										
1.	Sulfur Dioxide		Bisulfite	✓	Other:						
2.	Number of pumps?				**4**						
3.	Number of pumps in operation?				**1**						
4.	Number of evaporators?				**N/A**						
5.	Number of evaporators in operation?				**N/A**						
5.	Number contact tanks?				**2**						
6.	Number contact tanks in operation?				**1**						
7.	Proper flow distribution between units?										✓
	HOW IS CHEMICAL INTRODUCED INTO THE WASTE STREAM?										
8.	Perforated Diffuser		Injector w/single entry point	✓	Tablet Feeder						
9.	Chlorine residual in basin effluent				**Highest residual chlorine value = 0.05 mg/l on 4/9/2011**						
10.	Applied dechlorination dosage				**316 lbs/day**						
11.	Control system operational?								✓		
12.	Control system adjusted?	Automatic			Manual	✓	Other:				
13.	Residual analyzer?									✓	
14.	Contact basin adequately baffled?										✓
15.	Adequate ventilation in cylinder storage area?										✓
16.	Adequate ventilation in equipment room?								✓		
17.	Proper safety precautions used?								✓		

COMMENTS:	**#9 - #10. Data from April 2011 Monthly Operations Report.**

UNIT PROCESS:	EFFLUENT/PLANT OUTFALL

									YES	NO	NA
1.	Type of outfall		Shore Based			Submerged	✓				
	TYPE IF SHORE BASED:										
2.	Wingwall		Headwall		Rip Rap		Pipe	✓			
3.	Flapper valve present?								✓		
4.	Erosion of bank area?										✓
5.	Effluent plume visible?										✓
	Condition of outfall and the supporting structure? **N/A**										
6.	GOOD		FAIR		POOR						
	FINAL EFFLUENT, EVIDENCE OF FOLLOWING PROBLEMS?										
	Oil sheen?									✓	
	Grease?									✓	
	Sludge bar?										✓
	Turbid effluent?									✓	
	Visible foam?									✓	
7.	Unusual color?									✓	

COMMENTS:	**#6. Outfall structure is located in the James River. Effluent observed prior to dechlorination appeared clear and colorless. (Photo 12)**

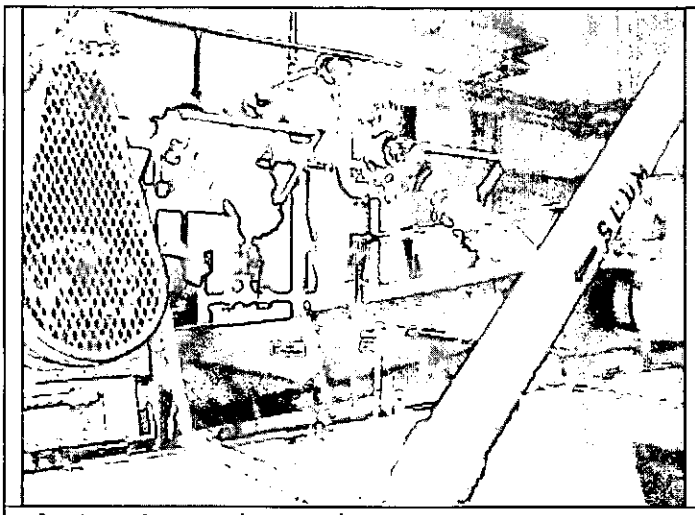


Photo 1. Grit units.

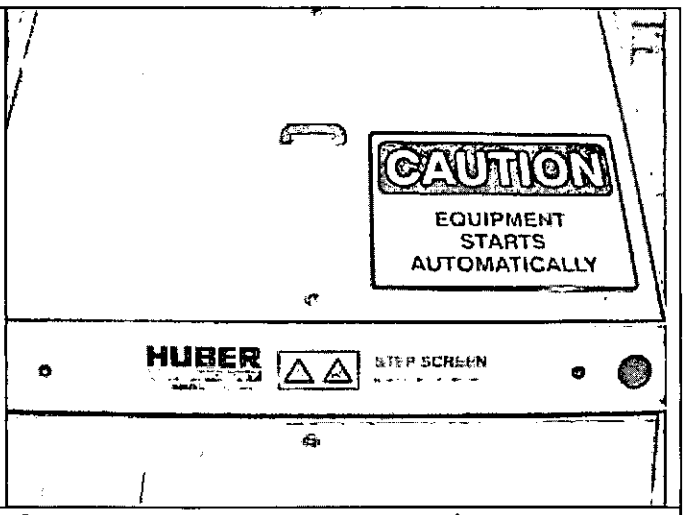


Photo 2. Step screen unit.

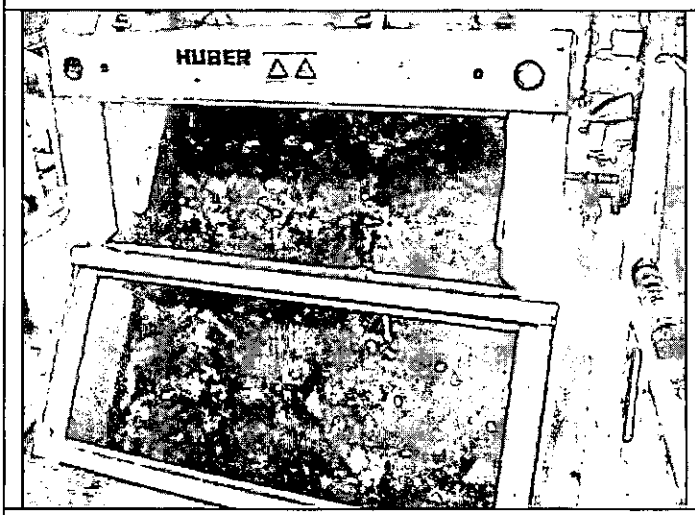


Photo 3. Step screen with cover removed.

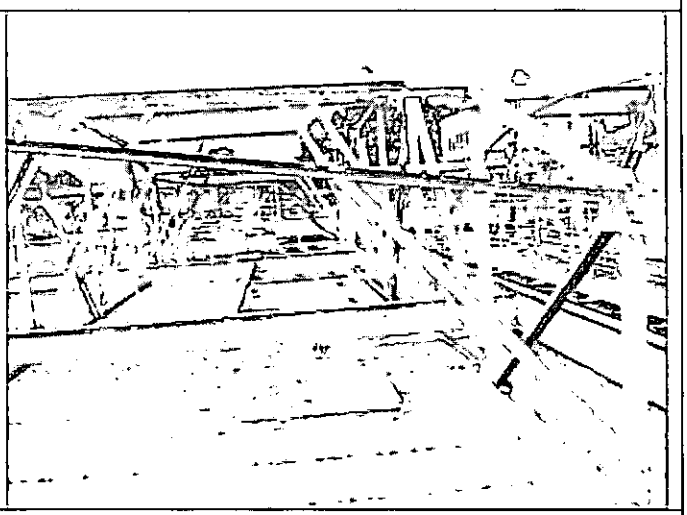


Photo 4. Primary sedimentation.

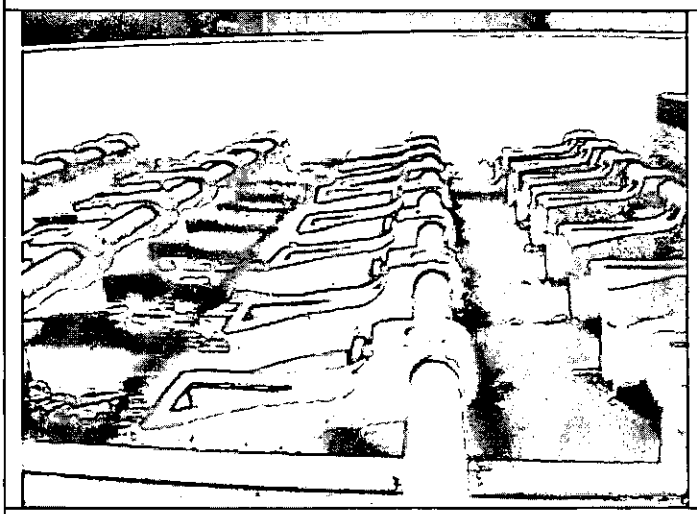


Photo 5. Gravity belt thickener.

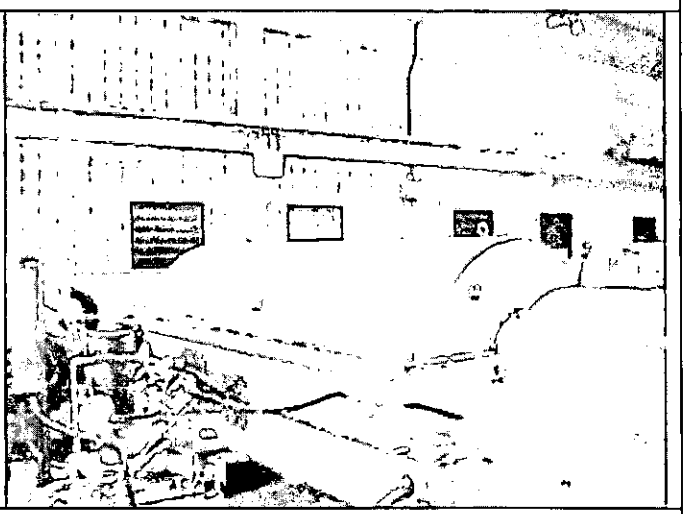


Photo 6. Centrifuge.

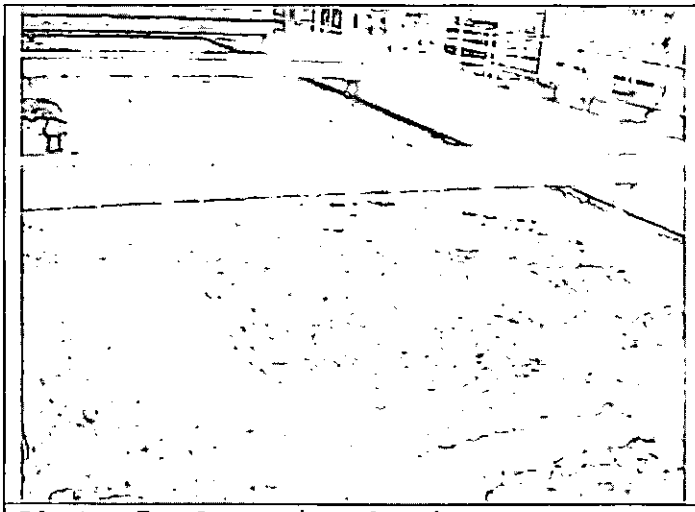


Photo 7. Aeration basin unimproved.

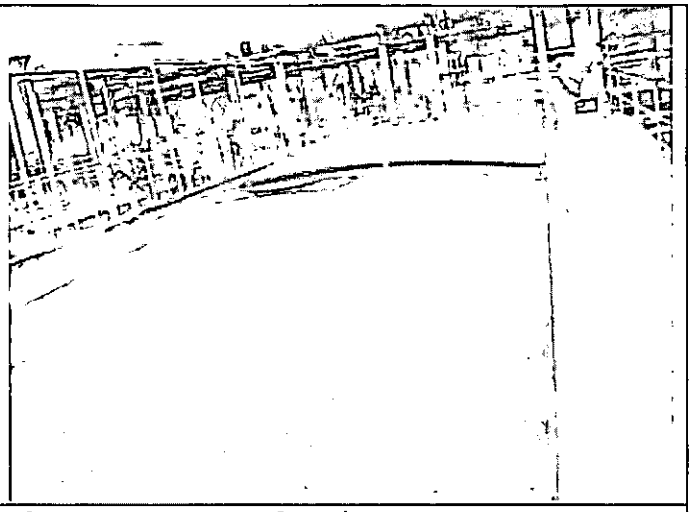


Photo 8. IFAS basin.

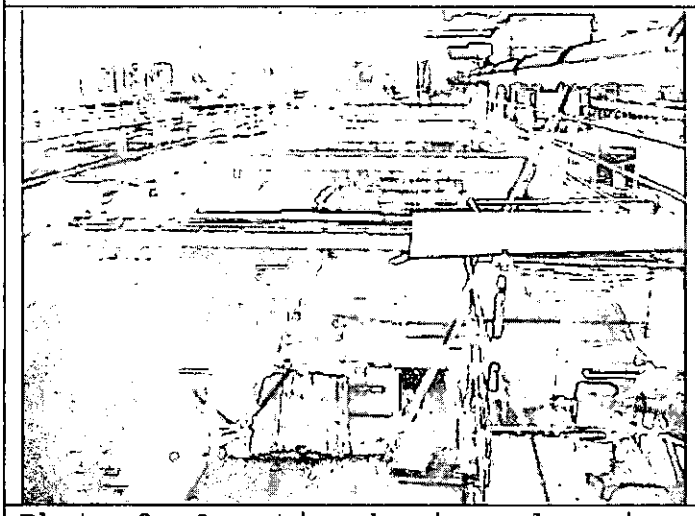


Photo 9. Aeration basin undergoing upgrade to IFAS system.

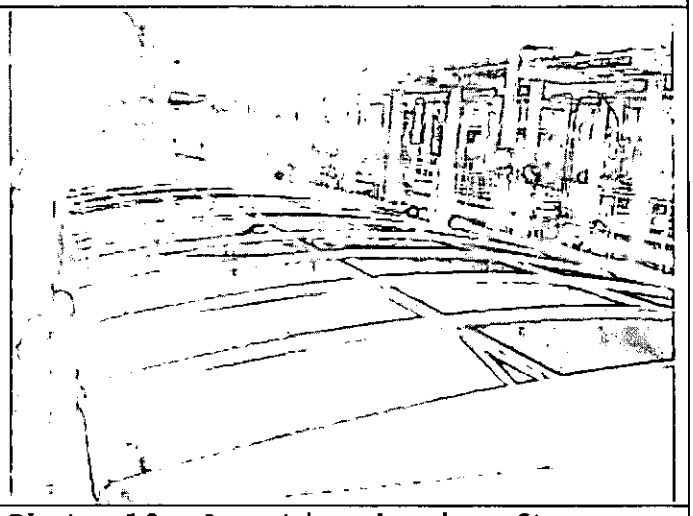


Photo 10. Aeration basin after upgrade.

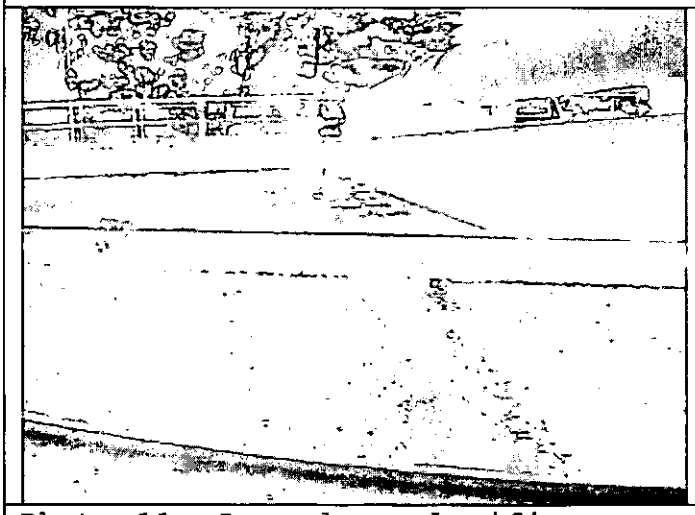


Photo 11. Secondary clarifier.

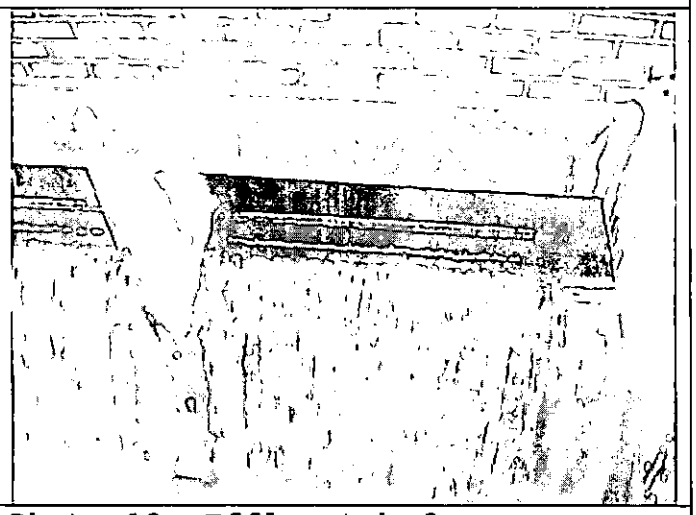
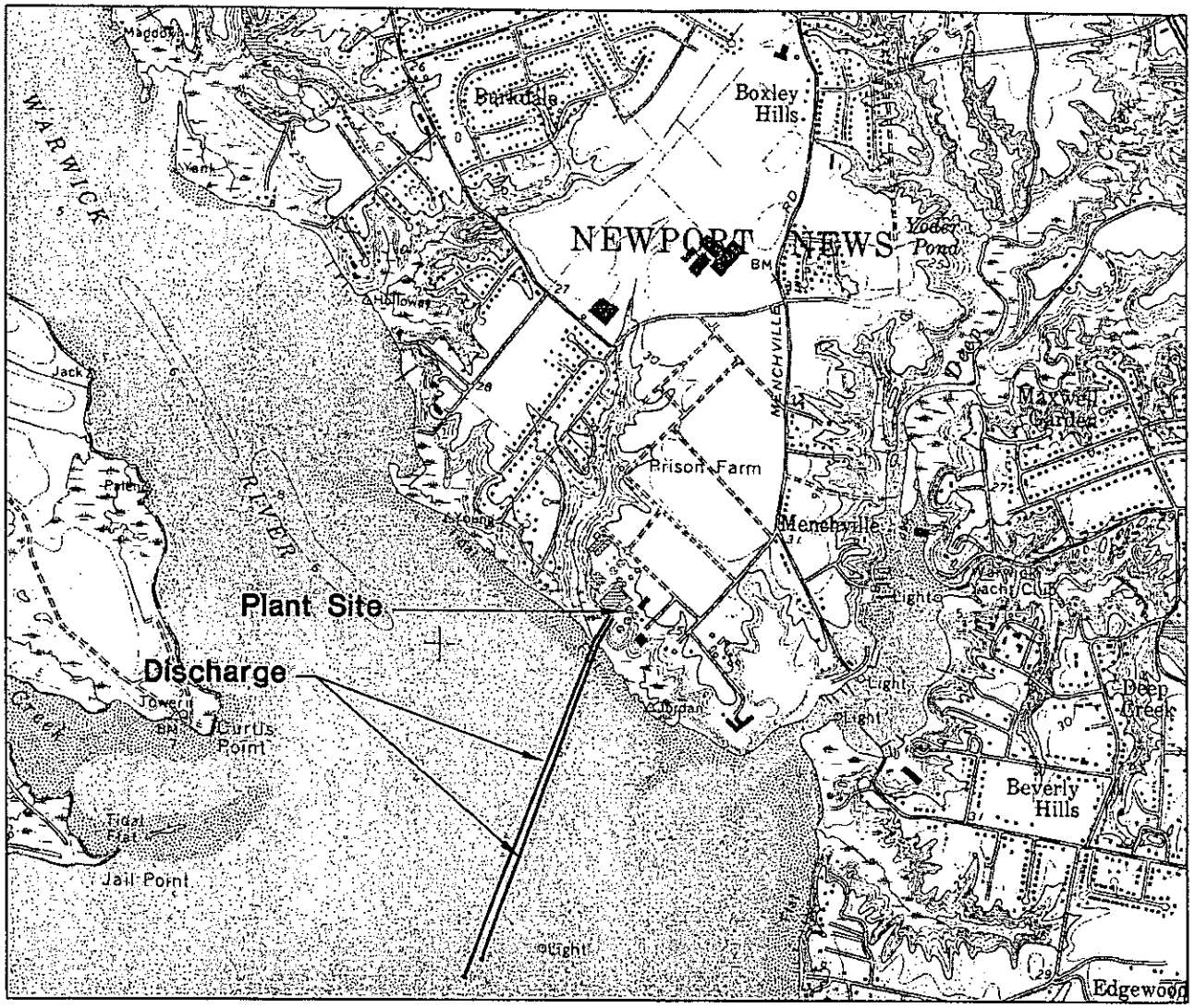


Photo 12. Effluent before dechlorination.

ATTACHMENT 2

DISCHARGE LOCATION/TOPOGRAPHIC MAP



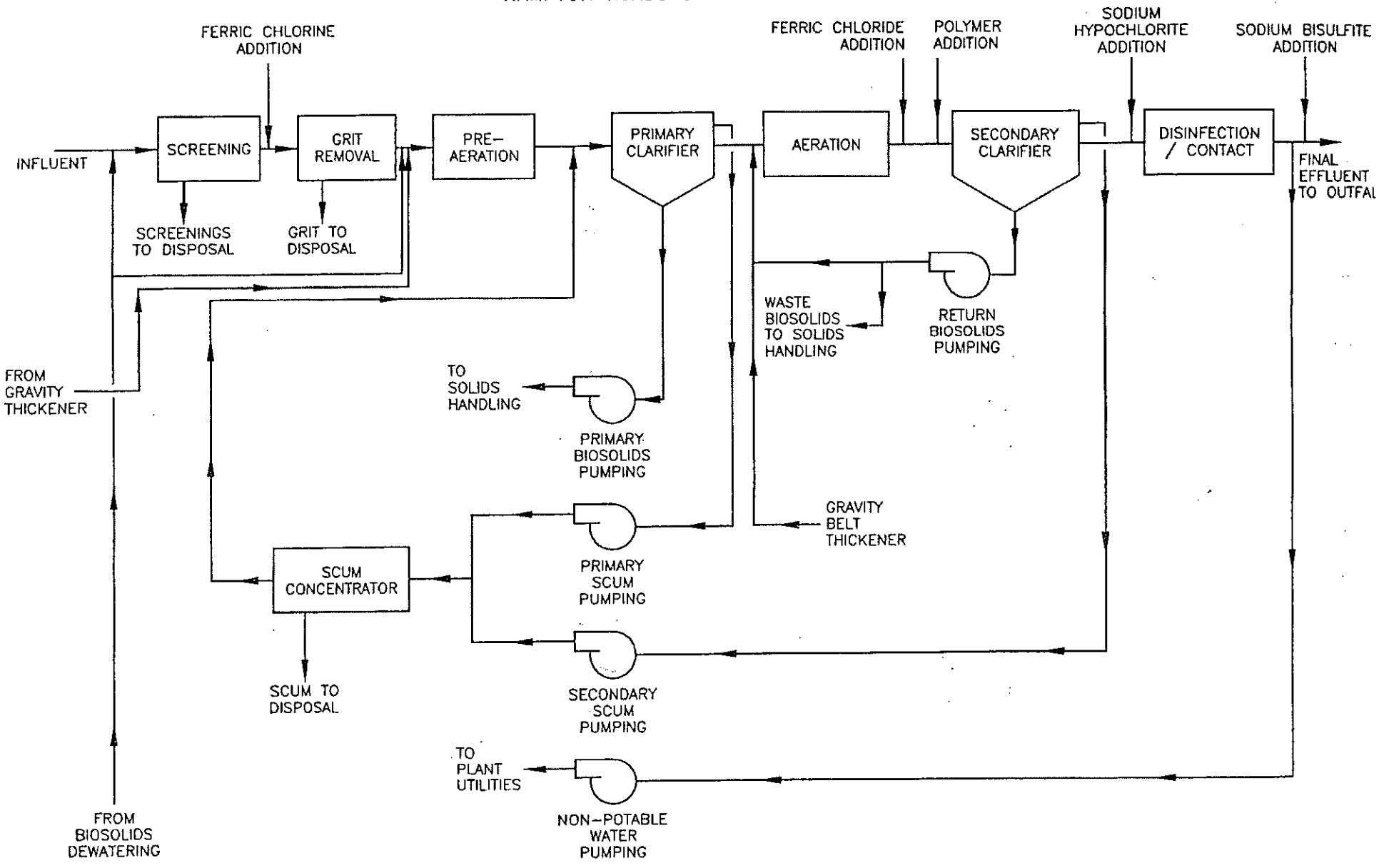
Location Map
for
James River TP

June 2003 Scale: 1"-2000' USGS Map Reference

ATTACHMENT 3

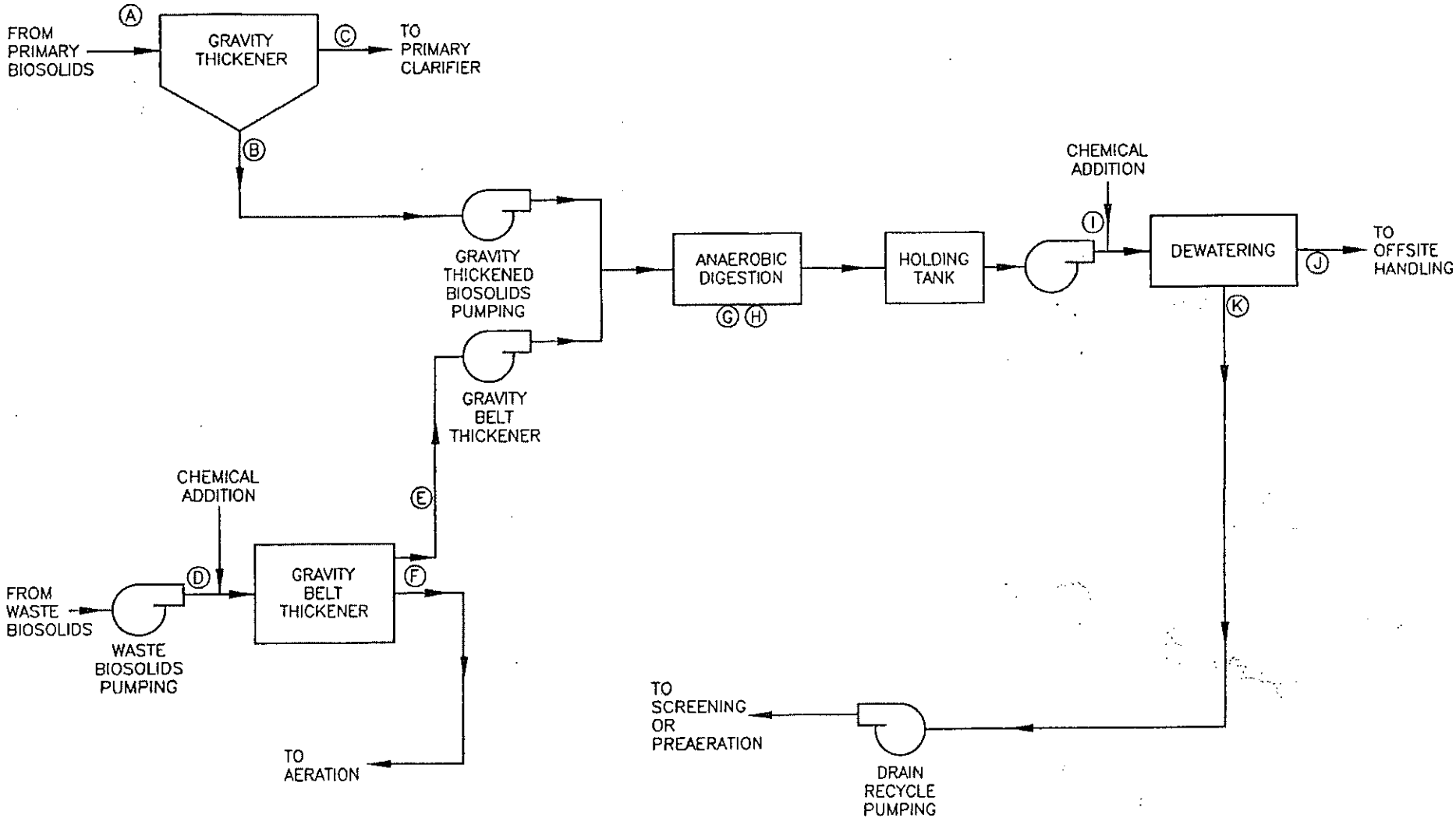
SCHEMATIC/PLANS & SPECS/SITE MAP/ WATER BALANCE

JAMES RIVER TREATMENT PLANT
SEWAGE TREATMENT FLOW DIAGRAM
HAMPTON ROADS SANITATION DISTRICT



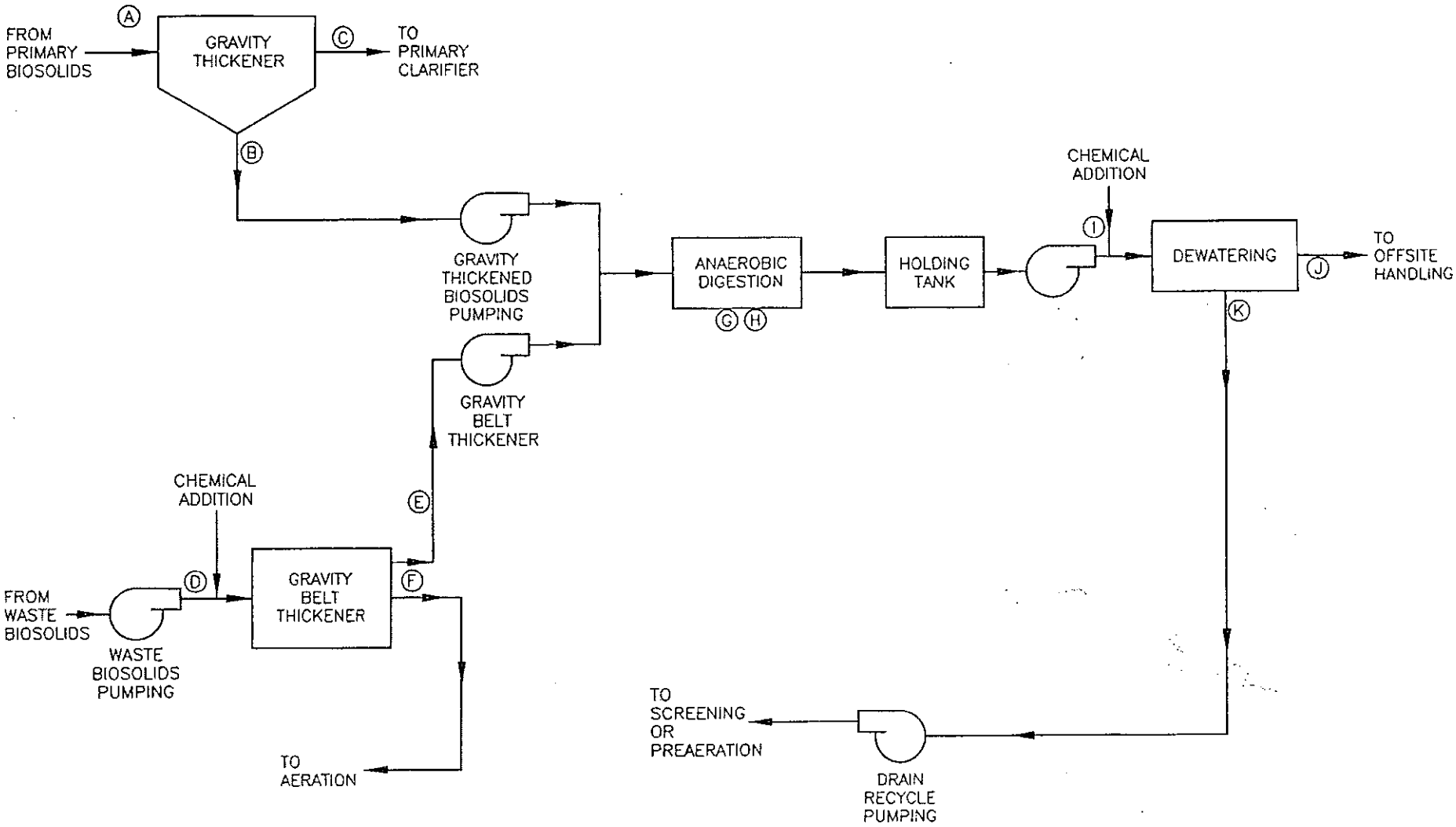
7/01/00

JAMES RIVER TREATMENT PLANT
SOLIDS HANDLING SAMPLE LOCATION DIAGRAM
HAMPTON ROADS SANITATION DISTRICT



7-3-02

JAMES RIVER TREATMENT PLANT
SOLIDS HANDLING SAMPLE LOCATION DIAGRAM
HAMPTON ROADS SANITATION DISTRICT



7-3-02

ATTACHMENT 4

TABLE I - DISCHARGE/OUTFALL DESCRIPTION

TABLE I
NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001 60" Diffuser Pipe Primary	370422N/ 0763223W West End 370423N/ 0763221W East End	Publicly Owned Treatment works	Secondary treatment including bar screen, grit removal, primary clarification, secondary clarification, activated sludge, chlorination and dechlorination.	20 MGD
002	370503N/ 0763159W	Stormwater	Good housekeeping and management, containment of stored materials	0.003 MG
003	370501N 0763202W	Stormwater	Good housekeeping and management, containment of stored materials	0.0004 MG
004	370503N 0763205W	Stormwater	Good housekeeping and management, containment of stored materials	0.001 MG
005	370506N 0763205W	Stormwater	Good housekeeping and management, containment of stored materials	0.0003 MG
006	370507N 0763206W	Stormwater	Good housekeeping and management, containment of stored materials	0.002 MG
007	370508N 0763208W	Stormwater	Good housekeeping and management, containment of stored materials	0.002 MG

(1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Give maximum 30-day average flow for industry and design flow for municipal

Total for the 6 SW Outfalls 0.009 MG

ATTACHMENT 5

TABLE II - EFFLUENT MONITORING/LIMITATIONS

TABLE II - INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 20 MGD
Outfall Description: Municipal Discharge
SIC CODE: 4952
( ) Final Limits (X) Interim Limits Effective Dates - From: Reissuance To: CTO Issuance

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	*EFFLUENT LIMITATIONS*				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	*WEEKLY AVERAGE*	*MINIMUM*	*MAXIMUM*	FREQUENCY	SAMPLE TYPE
Flow (MGD) [a]	3		*NL*	*NA*	*NA*	*NL*	Cont.	TI & RE*
PH (S.U.)	1		*NA*	*NA*	*6.0*	*9.0*	1/Day	Grab
BOD5 (mg/l) [c] [d]	1		*30*	*45*	*NA*	*NA*	3/Week	24 HC
BOD5 (kg/d) [d]	1	20	*2271*	*3406*	*NA*	*NA*	3/Week	24 HC
TSS (mg/l) [c] [d]	1		*30*	*45*	*NA*	*NA*	3/Week	24 HC
TSS (kg/d) [d]	1	20	*1703*	*3406*	*NA*	*NA*	3/Week	24 HC
TRC (mg/l) [b] [c]	2		*0.20*	*0.60*	*NA*	*NA*	1/Day	Grab
Total Phosphorus (mg/l) [f]	3		*NL*	*NA*	*NA*	*NA*	1/Month	24 HC
Total Phosphorus (mg/l) Year to date [f]	3		*NL*	*NA*	*NA*	*NA*	1/Month	Calc
Total Phosphorus (mg/l) Calendar Year [e] [f]	3		*2.0*	*NA*	*NA*	*NA*	1/Year	Calc
Fecal Coliform (n/cml) [d] [g]	2		*200*	*NA*	*NA*	*NA*	1/Week (Between 10 am & 4 pm)	Grab
Enterococci (n/cml) [h]	2		*35*	*NA*	*NA*	*NA*	2/Month (Between 10 am & 4 pm)	Grab

*Totalizing, Indicating & Recording Equipment
NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1 Year= January 1-December 31

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040090, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

[a] The design flow of this treatment facility is 20 MGD. See Part I.C.5 for additional flow requirements.
[b] See Part I.B. for additional chlorine monitoring instructions.
[c] See Parts I.C.6 and I.C.7 for quantification levels and reporting requirements, respectively.
[d] See Part I.C.8 for additional instructions regarding effluent monitoring frequencies.
[e] Annual average limitation, based on a calculation of all samples collected during the calendar year.
[f] See Part I.C.11.for additional instructions regarding Total Phosphorus.
[g] Fecal Coliform monthly average is calculated as a geometric mean.
[h] Enterococci monthly average is calculated as a geometric mean. Samples must be taken at least 7 days apart.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts.
3. At least 85% removal for BOD and TSS must be attained for this effluent.

The basis for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 **DESIGN FLOW:** 20 MGD
Outfall Description: Treated Municipal wastewater.
SIC CODE: 4952

(X) Final Limits ( ) Interim Limits **Effective Dates** - From: CTO Issuance Date To: Expiration Date

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD) [a]	3		NL	NA	NA	NL	Continuous	TI & RE*
pH (S.U.)	1		NA	NA	6.0	9.0	1/Day	Grab
BOD5 (mg/l) [c] [d]	1		30	45	NA	NA	3/Week	24-Hr. Comp
BOD5 (kg/d) [d]	1	20	2271	3406	NA	NA	3/Week	24-Hr. Comp
TSS (mg/l) [c] [d]	1		30	45	NA	NA	3/Week	24-Hr. Comp
TSS (kg/d) [d]	1	20	2271	3406	NA	NA	3/Week	24-Hr. Comp
TRC (mg/l) [b] [c]	2		0.20	0.60	NA	NA	1/Day	Grab
Total Phosphorus (mg/l) [f]	3		NL	NA	NA	NA	1/Month	24-Hr. Comp
Total Phosphorus (mg/l) Year to date [f]	3		NL	NA	NA	NA	1/Month	Calc
Total Phosphorus (mg/l) Calendar Year [e] [f]	3		2.0	NA	NA	NA	1/Year	Calc
Total Nitrogen (mg/l) [f]	3		NL	NA	NA	NA	1/Month	24-Hr. Comp
Total Nitrogen (mg/l) Year to date [f]	3		NL	NA	NA	NA	1/Month	Calc
Total Nitrogen (mg/l) Calendar Year [e] [f]	3		12	NA	NA	NA	1/Year	Calc
Fecal Coliform (n/cml) [d] [g]	2		200	NA	NA	NA	1/Week (Between 10 am & 4 pm)	Grab

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Enterococci (n/cml) [h]	2		35	NA	NA	NA	2/Month (Between 10 am & 4 pm)	Grab

*Totalizing, Indicating & Recording Equipment

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/Year = January 1 to December 31

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040090, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

[a] The design flow of this treatment facility is 20 MGD. See Part I.C.5 for additional flow requirements.
[b] See Part I.B. for additional chlorine monitoring instructions.
[c] See Parts I.C.6 and I.C.7 for quantification levels and reporting requirements, respectively.
[d] See Part I.C.8 for additional instructions regarding effluent monitoring frequencies.
[e] Annual average limitation, based on a calculation of all samples collected during the calendar year.
[f] See Part I.C.11.for additional instructions regarding Total Phosphorus and Total Nitrogen
[g] Fecal Coliform monthly average is calculated as a geometric mean.
[h] Enterococci monthly average is calculated as a geometric mean. Samples must be taken at least 7 days apart.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts.
3. At least 85% removal for BOD and TSS must be attained for this effluent.

The basis for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALLS #002-007
Outfall Description: Stormwater Not Associated With Regulated Industrial Activity
SIC CODE: 4952

THESE OUTFALLS SHALL CONTAIN STORM WATER RUNOFF NOT ASSOCIATED WITH A REGULATED INDUSTRIAL ACTIVITY WHERE NO MONITORING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WASTEWATER FROM THESE OUTFALLS.

No exposure status has been given to these outfalls.

TABLE II - MUNICIPAL MINOR EFFLUENT LIMITATIONS
Attachment 5 continued

Final Chlorine Limitations Effective Dates - From: Permit Issuance To: Permit Expiration

TRC **	AFTER CL2 CONTACT TANK (Dechlor. Required)			AFTER DECHLORINATION		AFTER CL2 CONTACT TANK (Dechlor. Not Required)				
	MIN.	EXC.	INST. MIN.	WKLY AVG.	INST. MAX.	PERMIT RANGE	EXC.	REPORT-ING RANGE	EXC.	TECH. MAX.
a) Non-Detect. Dechlor. Required	---	---	---	---	---	NA	NA	NA	NA	NA
b) Detect. Dechlor. Required	**0.50 mg/l**	**36**	**0.5 mg/l***	**0.60 mg/l**	---	NA	NA	NA	NA	NA
c) No Dechlor.	NA	NA	NA	NA	NA	---	---	---	---	---

* Reporting is required when 3 or more consecutive readings are <0.5 mg/l or when the TRC is <0.1 mg/l.

** --Chlorine mass balance Cw (W for Tidal systems): check one

____a) $C_w < 0.1$ mg/l [dechlor. required, non-detectable format]

__X__b) 0.1 mg/l $\leq C_w <$ 2.0 mg/l (2.5 mg/l for PWS, Shellfish waters) [dechlor. required, detectable format]

___ c) $C_w > 2.0$ mg/l (2.5 mg/l for PWS, Shellfish waters) [dechlor. not required, include a restrictive technology max. value]

The design flow of this treatment facility is 20 MGD.

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

See Part I.B. for additional TRC limitations.

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/ ANTIDEGRADATION/ANTIBACKSLIDING

HRSD James River STP
Rationale For Parameters, Limitations, And Sampling Requirements
Outfall 001

Flow:

No limit, monitoring is required with continuous, totalizing, indicating or recording equipment. This based on the VPDES Permit Manual, and is standard for sanitary wastewater plants with discharges greater than 2 MGD. The design flow of 20 MGD is the baseline for the 95% design flow capacity notification.

pH:

Minimum limit of 6.0 and maximum of 9.0 S.U. These limits are based on Federal Effluent Guidelines (40 CFR 133.102) and Water Quality Standards in 9 VAC 25-260-50, which limits pH to the range above for coastal waters of the State. Monitoring is a daily grab sample and is standard for sanitary WW plants with discharges greater than 2 MGD.

Biochemical Oxygen Demand:

Monthly average of 30 mg/l and 2271 kg/day and a weekly average of 45 mg/l and 3406 kg/day. This is based on Federal Effluent Guidelines (40 CFR 133.102) which sets the limits for secondary WW plants. Loading limits are in whole numbers based upon the latest DEQ significant figures guidance (06-2016). Monitoring required is a 24 hour composite, 3 days a week. The frequency is based upon previous permit reissuances where DEQ guidance document 98-2005 was used to decrease the monitoring frequency to 3 days/week. This will be carried forward for this reissuance.

Total Suspended Solids:

Monthly average of 30 mg/l and 2271 kg/day and a weekly average of 45 mg/l and 3406 kg/day. This is based on Federal Effluent Guidelines (40 CFR 133.102) which sets the limits for secondary WW plants. Loading limits are in whole numbers based upon the latest DEQ significant figures guidance (06-2016). Monitoring required is a 24 hour composite, 3 days a week. The frequency is based upon previous permit reissuances where DEQ guidance document 98-2005 was used to decrease the monitoring frequency to 3 days/week. This will be carried forward for this reissuance.

Total Residual Contact Chlorine:

Minimum limit after contact time is 0.50 mg/l with 36 exceptions. This value was determined from the HRSD Chlorine Reduction Test which was approved by DEQ in February 1997. In addition, it follows the requirements of the VPDES permit manual. These process monitoring limits are believed necessary to ensure proper disinfection. Monitoring required is a grab sample once every two hours. This is based on the VPDES Permit Manual and is standard for municipal discharges of > 2.0 MGD to nutrient enriched waters.

A special condition requires reporting if the chlorine concentration falls below 0.5 mg/l or chlorination is lost(<0.10 mg/l).

Final Total Residual Chlorine: A weekly average of 0.60 mg/l. A monthly average of 0.20 mg/l. This is a technology based limit following guidance document 00-2011 and is carried forward from the current permit. Monitoring is required once/day by grab sample. The frequency is based on the VPDES permit manual and is standard for municipal discharges of >2.0 MGD.

Fecal Coliform: Monthly average of 200 n/cml. This is based on Water Quality Standards (9 VAC 25-260-160) and is believed protective of instream standards. Monitoring required is a grab sample once a week. The VPDES Manual allows reduction to this frequency based on long term average discharge values in relation to the monthly average limit. Current guidance requires fecal coliform monitoring in salt or transition waters if the discharge is to shellfish waters. BPJ determines that this frequency is adequate to determine compliance with the standard.

Enterococci: A monthly average limit of 35 n/cml is included per water quality standards. Sampling is required 2/Month to be calculated as a geometric mean. Samples must be taken at least 7 days apart. This is carried forward from the current permit. Enterococci was added at the time the last permit reissuance due to Enterococci monitoring becoming an issue that EPA addressed in late 2007/early 2008.

Total Phosphorus Calendar Year An annual average concentration limit of 2.0 mg/l is placed in the permit with monitoring on an annual basis. Additional nutrient monitoring and reporting is covered under the General VPDES Watershed Permit for Total Nitrogen and Total Phosphorus. The Williamsburg HRSD facility is covered under VAN040090. On 5/16/07 guidance document 07-2008 was released by DEQ Central Office for the implementation of the nutrient general permit in relation to the individual permit.

Total Phosphorus Year-to-Date There is no limit for the monthly average TP Year-to-date parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M and is a calculation. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed held by HRSD.

Total Phosphorus There is no limit for the monthly average phosphorus parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed. Reporting for this parameter is required in the individual permit (IP) because the annual concentration limits is contained in the IP. All data used to calculate and determine compliance with the limit in the IP needs to be in the same document and reported on the same form as the limit.

Total Nitrogen Calendar Year A limit of 12 mg/l will be added for Total Nitrogen as a final limit Part I Section C.4 of the permit states that upon issuance of a CTC, DEQ staff shall initiate modification of this permit to include annual concentrations limits based on the nutrient removal technologies listed in the

CTC. The CTC for this facility was issued on 7/31/09 by DEQ office of wastewater engineering staff. Once the CTO is issued the limit will become effective. The CTO is expected to be issued before the end of 2012.

Total Nitrogen Year-to-Date

There is no limit for the monthly average TN Year-to-date parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M and is a calculation. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed held by HRSD. No reporting is required until the CTO for the nutrient removal is issued.

Total Nitrogen

There will be no limit for the monthly average nitrogen. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting will be 1/M. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed. Reporting for this parameter is required in the individual permit (IP) because the annual concentration limits is contained in the IP. All data used to calculate and determine compliance with the limit in the IP needs to be in the same document and reported on the same form as the limit. No reporting is required until the CTO for the nutrient removal is issued.

Water Quality Standards Reasonable Potential

Zinc and Ammonia all had a quantifiable concentration for the data gathered for the 2012 application. However, these data points were significantly below the most limiting wasteload allocations found in the attached wasteload allocation analysis. No limits were needed for these parameters.

All other water quality parameters reported on Form 2A were below the quantification levels. No additional limits are needed at this time.

Mixing Zone Analysis

A dilution study was submitted for this facility on 12/21/99. The acute dilution ratio of 35:1 and a chronic dilution ratio of 150:1 were approved by DEQ.

Stormwater

Outfalls 002-007 are discharges of stormwater from the plant (industrial) area. One outfall (007) was sampled, as HRSD has claimed representative monitoring for the other stormwater outfalls. HRSD has met the requirements for industrial "no exposure", thereby only discharging stormwater not associated with an industrial activity. The "no exposure" certification form is attached to the section.

Outfall 001

The James River plant has two parallel pipes that make up outfall 001. Both pipes discharge to the same area. The flow to the pipes is controlled by valve. Both pipes can be open or just one. All flow goes to a "Y" or horseshoe-like juncture and then to the east or west end of each outfall pipe. This system has been in place for at least two permit cycles.

Permit No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX	Start Date	End Date
VA0081272	FLOW	12.97	16.43				2/1/08	2/29/08
VA0081272	PH			6.3		7.1	2/1/08	2/29/08
VA0081272	BOD5	381	441		8	9	2/1/08	2/29/08
VA0081272	TSS	499	636		10	13	2/1/08	2/29/08
VA0081272	COLIFORM, FECAL				2		2/1/08	2/29/08
VA0081272	TP				0.63		2/1/08	2/29/08
VA0081272	CL2, TOTAL CONTACT			0.27			2/1/08	2/29/08
VA0081272	CL2, TOTAL FINAL				<QL	<QL	2/1/08	2/29/08
VA0081272	TP YTD				0.64		2/1/08	2/29/08
VA0081272	FLOW	15.30	21.55				3/1/08	3/31/08
VA0081272	PH			6.2		6.9	3/1/08	3/31/08
VA0081272	BOD5	454	527		8	9	3/1/08	3/31/08
VA0081272	TSS	723	769		13	14	3/1/08	3/31/08
VA0081272	COLIFORM, FECAL				1		3/1/08	3/31/08
VA0081272	TP				0.67		3/1/08	3/31/08
VA0081272	CL2, TOTAL CONTACT			0.22			3/1/08	3/31/08
VA0081272	CL2, TOTAL FINAL				0.0068	0.016	3/1/08	3/31/08
VA0081272	TP YTD				0.65		3/1/08	3/31/08
VA0081272	FLOW	16.71	27.94				4/1/08	4/30/08
VA0081272	PH			6.4		7.0	4/1/08	4/30/08
VA0081272	BOD5	626	618		10	9	4/1/08	4/30/08
VA0081272	TSS	1102	1259		17	20	4/1/08	4/30/08
VA0081272	COLIFORM, FECAL				6		4/1/08	4/30/08
VA0081272	TP				0.87		4/1/08	4/30/08
VA0081272	CL2, TOTAL CONTACT			0.06			4/1/08	4/30/08
VA0081272	CL2, TOTAL FINAL				0.0037	0.016	4/1/08	4/30/08
VA0081272	TP YTD				0.70		4/1/08	4/30/08
VA0081272	FLOW	12.15	15.98				5/1/08	5/31/08
VA0081272	PH			6.3		7.4	5/1/08	5/31/08
VA0081272	BOD5	408	497		9	10	5/1/08	5/31/08
VA0081272	TSS	995	1198		22	25	5/1/08	5/31/08
VA0081272	COLIFORM, FECAL				5		5/1/08	5/31/08
VA0081272	TP				1.2		5/1/08	5/31/08
VA0081272	CL2, TOTAL CONTACT			0.15			5/1/08	5/31/08
VA0081272	CL2, TOTAL FINAL				0.0094	0.024	5/1/08	5/31/08
VA0081272	TP YTD				0.81		5/1/08	5/31/08
VA0081272	FLOW	11.29	11.90				6/1/08	6/30/08
VA0081272	PH			6.9		8.2	6/1/08	6/30/08
VA0081272	BOD5	204	320		5	7	6/1/08	6/30/08
VA0081272	TSS	412	771		9.6	18	6/1/08	6/30/08
VA0081272	COLIFORM, FECAL				2		6/1/08	6/30/08
VA0081272	TP				0.90		6/1/08	6/30/08
VA0081272	CL2, TOTAL CONTACT			0.19			6/1/08	6/30/08
VA0081272	CL2, TOTAL FINAL				0.077	0.13	6/1/08	6/30/08
VA0081272	TP YTD				0.82		6/1/08	6/30/08
VA0081272	FLOW	11.69	14.17				7/1/08	7/31/08
VA0081272	PH			6.0		8.6	7/1/08	7/31/08
VA0081272	BOD5	445	842		10	18	7/1/08	7/31/08
VA0081272	TSS	830	1364		19	29	7/1/08	7/31/08
VA0081272	COLIFORM, FECAL				8		7/1/08	7/31/08
VA0081272	TP				1.2		7/1/08	7/31/08
VA0081272	ENTEROCOCCI				2		7/1/08	7/31/08
VA0081272	CL2, TOTAL CONTACT			0.08			7/1/08	7/31/08
VA0081272	CL2, TOTAL FINAL				0.090	0.15	7/1/08	7/31/08
VA0081272	TP YTD				0.88		7/1/08	7/31/08
VA0081272	FLOW	10.89	11.68				8/1/08	8/31/08
VA0081272	PH			6.8		7.8	8/1/08	8/31/08
VA0081272	BOD5	293	328		7	8	8/1/08	8/31/08
VA0081272	TSS	582	643		14	15	8/1/08	8/31/08
VA0081272	COLIFORM, FECAL				11		8/1/08	8/31/08
VA0081272	TP				0.86		8/1/08	8/31/08
VA0081272	ENTEROCOCCI				1		8/1/08	8/31/08
VA0081272	CL2, TOTAL CONTACT			0.11			8/1/08	8/31/08
VA0081272	CL2, TOTAL FINAL				0.049	0.087	8/1/08	8/31/08

VA0081272	TP YTD				0.88		8/1/08	8/31/08
VA0081272	FLOW	10.72	15.50				9/1/08	9/30/08
VA0081272	PH			6.1		7.6	9/1/08	9/30/08
VA0081272	BOD5	269	314		7	8	9/1/08	9/30/08
VA0081272	TSS	716	999		18	26	9/1/08	9/30/08
VA0081272	COLIFORM, FECAL				17		9/1/08	9/30/08
VA0081272	TP				0.85		9/1/08	9/30/08
VA0081272	ENTEROCOCCI				2		9/1/08	9/30/08
VA0081272	CL2, TOTAL CONTACT			0.22			9/1/08	9/30/08
VA0081272	CL2, TOTAL FINAL				0.0043	0.019	9/1/08	9/30/08
VA0081272	TP YTD				0.87		9/1/08	9/30/08
VA0081272	FLOW	10.84	13.66				10/1/08	10/31/08
VA0081272	PH			6.3		7.4	10/1/08	10/31/08
VA0081272	BOD5	493	705		12	18	10/1/08	10/31/08
VA0081272	TSS	911	1375		22	34	10/1/08	10/31/08
VA0081272	COLIFORM, FECAL				10		10/1/08	10/31/08
VA0081272	TP				1.1		10/1/08	10/31/08
VA0081272	ENTEROCOCCI				2		10/1/08	10/31/08
VA0081272	CL2, TOTAL CONTACT			0.19			10/1/08	10/31/08
VA0081272	CL2, TOTAL FINAL				<QL	<QL	10/1/08	10/31/08
VA0081272	TP YTD				0.90		10/1/08	10/31/08
VA0081272	FLOW	11.44	16.00				11/1/08	11/30/08
VA0081272	PH			6.0		7.5	11/1/08	11/30/08
VA0081272	BOD5	325	442		8	10	11/1/08	11/30/08
VA0081272	TSS	491	697		11	16	11/1/08	11/30/08
VA0081272	COLIFORM, FECAL				1		11/1/08	11/30/08
VA0081272	TP				0.85		11/1/08	11/30/08
VA0081272	ENTEROCOCCI				1		11/1/08	11/30/08
VA0081272	CL2, TOTAL CONTACT			0.10			11/1/08	11/30/08
VA0081272	CL2, TOTAL FINAL				0.067	0.12	11/1/08	11/30/08
VA0081272	TP YTD				0.89		11/1/08	11/30/08
VA0081272	FLOW	12.86	21.32				12/1/08	12/31/08
VA0081272	PH			6.1		6.9	12/1/08	12/31/08
VA0081272	BOD5	297	333		6	7	12/1/08	12/31/08
VA0081272	TSS	586	692		12	14	12/1/08	12/31/08
VA0081272	COLIFORM, FECAL				2		12/1/08	12/31/08
VA0081272	TP				0.73		12/1/08	12/31/08
VA0081272	ENTEROCOCCI				2		12/1/08	12/31/08
VA0081272	CL2, TOTAL CONTACT			0.13			12/1/08	12/31/08
VA0081272	CL2, TOTAL FINAL				0.029	0.080	12/1/08	12/31/08
VA0081272	TP YTD				0.88		12/1/08	12/31/08
VA0081272	TP ANNUAL AVG				0.88		12/1/08	12/31/08
VA0081272	FLOW	11.96	13.03				1/1/09	1/31/09
VA0081272	PH			6.2		6.9	1/1/09	1/31/09
VA0081272	BOD5	195	221		4	5	1/1/09	1/31/09
VA0081272	TSS	375	433		8.3	9.6	1/1/09	1/31/09
VA0081272	COLIFORM, FECAL				1		1/1/09	1/31/09
VA0081272	TP				0.54		1/1/09	1/31/09
VA0081272	ENTEROCOCCI				1		1/1/09	1/31/09
VA0081272	CL2, TOTAL CONTACT			0.21			1/1/09	1/31/09
VA0081272	CL2, TOTAL FINAL				0.0084	0.023	1/1/09	1/31/09
VA0081272	TP YTD				0.54		1/1/09	1/31/09
VA0081272	FLOW	11.37	12.79				2/1/09	2/28/09
VA0081272	PH			6.2		7.1	2/1/09	2/28/09
VA0081272	BOD5	343	420		8	10	2/1/09	2/28/09
VA0081272	TSS	424	492		9.9	12	2/1/09	2/28/09
VA0081272	COLIFORM, FECAL				1		2/1/09	2/28/09
VA0081272	TP				0.86		2/1/09	2/28/09
VA0081272	ENTEROCOCCI				1		2/1/09	2/28/09
VA0081272	CL2, TOTAL CONTACT			0.12			2/1/09	2/28/09
VA0081272	CL2, TOTAL FINAL				0.034	0.071	2/1/09	2/28/09
VA0081272	TP YTD				0.70		2/1/09	2/28/09
VA0081272	FLOW	15.62	21.87				3/1/09	3/31/09
VA0081272	PH			6.2		6.9	3/1/09	3/31/09
VA0081272	BOD5	421	516		7	8	3/1/09	3/31/09

VA0081272	TSS	721	927		12	14	3/1/09	3/31/09
VA0081272	COLIFORM, FECAL				1		3/1/09	3/31/09
VA0081272	TP				0.70		3/1/09	3/31/09
VA0081272	ENTEROCOCCI				1		3/1/09	3/31/09
VA0081272	CL2, TOTAL CONTACT			0.26			3/1/09	3/31/09
VA0081272	CL2, TOTAL FINAL				0.069	0.13	3/1/09	3/31/09
VA0081272	TP YTD				0.70		3/1/09	3/31/09
VA0081272	FLOW	13.47	15.91				4/1/09	4/30/09
VA0081272	PH			6.2		6.8	4/1/09	4/30/09
VA0081272	BOD5	404	475		8	9	4/1/09	4/30/09
VA0081272	TSS	692	834		14	15	4/1/09	4/30/09
VA0081272	COLIFORM, FECAL				1		4/1/09	4/30/09
VA0081272	TP				0.74		4/1/09	4/30/09
VA0081272	ENTEROCOCCI				1		4/1/09	4/30/09
VA0081272	CL2, TOTAL CONTACT			0.29			4/1/09	4/30/09
VA0081272	CL2, TOTAL FINAL				0.016	0.047	4/1/09	4/30/09
VA0081272	TP YTD				0.71		4/1/09	4/30/09
VA0081272	FLOW	14.21	21.61				5/1/09	5/31/09
VA0081272	PH			6.3		7.3	5/1/09	5/31/09
VA0081272	BOD5	456	611		8	10	5/1/09	5/31/09
VA0081272	TSS	860	1062		15	17	5/1/09	5/31/09
VA0081272	COLIFORM, FECAL				2		5/1/09	5/31/09
VA0081272	TP				0.76		5/1/09	5/31/09
VA0081272	ENTEROCOCCI				1		5/1/09	5/31/09
VA0081272	CL2, TOTAL CONTACT			0.17			5/1/09	5/31/09
VA0081272	CL2, TOTAL FINAL				0.053	0.12	5/1/09	5/31/09
VA0081272	TP YTD				0.72		5/1/09	5/31/09
VA0081272	FLOW	12.59	16.76				6/1/09	6/30/09
VA0081272	PH			6.0		6.9	6/1/09	6/30/09
VA0081272	BOD5	295	334		6	7	6/1/09	6/30/09
VA0081272	TSS	658	714		14	15	6/1/09	6/30/09
VA0081272	COLIFORM, FECAL				4		6/1/09	6/30/09
VA0081272	TP				0.89		6/1/09	6/30/09
VA0081272	ENTEROCOCCI				1		6/1/09	6/30/09
VA0081272	CL2, TOTAL CONTACT			0.21			6/1/09	6/30/09
VA0081272	CL2, TOTAL FINAL				<QL	<QL	6/1/09	6/30/09
VA0081272	TP YTD				0.75		6/1/09	6/30/09
VA0081272	FLOW	11.26	12.70				7/1/09	7/31/09
VA0081272	PH			6.0		7.2	7/1/09	7/31/09
VA0081272	BOD5	264	411		6	10	7/1/09	7/31/09
VA0081272	TSS	442	499		10	12	7/1/09	7/31/09
VA0081272	COLIFORM, FECAL				4		7/1/09	7/31/09
VA0081272	TP				0.82		7/1/09	7/31/09
VA0081272	ENTEROCOCCI				3		7/1/09	7/31/09
VA0081272	CL2, TOTAL CONTACT			0.11			7/1/09	7/31/09
VA0081272	CL2, TOTAL FINAL				0.073	0.13	7/1/09	7/31/09
VA0081272	TP YTD				0.76		7/1/09	7/31/09
VA0081272	FLOW	11.99	13.69				8/1/09	8/31/09
VA0081272	PH			6.1		7.1	8/1/09	8/31/09
VA0081272	BOD5	210	245		5	5	8/1/09	8/31/09
VA0081272	TSS	388	510		8.6	11	8/1/09	8/31/09
VA0081272	COLIFORM, FECAL				4		8/1/09	8/31/09
VA0081272	TP				1.0		8/1/09	8/31/09
VA0081272	ENTEROCOCCI				2		8/1/09	8/31/09
VA0081272	CL2, TOTAL CONTACT			0.18			8/1/09	8/31/09
VA0081272	CL2, TOTAL FINAL				<QL	<QL	8/1/09	8/31/09
VA0081272	TP YTD				0.79		8/1/09	8/31/09
VA0081272	FLOW	12.58	23.92				9/1/09	9/30/09
VA0081272	PH			6.0		7.1	9/1/09	9/30/09
VA0081272	BOD5	291	618		5	9	9/1/09	9/30/09
VA0081272	TSS	567	1088		11	16	9/1/09	9/30/09
VA0081272	COLIFORM, FECAL				13		9/1/09	9/30/09
VA0081272	TP				0.74		9/1/09	9/30/09
VA0081272	ENTEROCOCCI				2		9/1/09	9/30/09
VA0081272	CL2, TOTAL CONTACT			0.27			9/1/09	9/30/09

VA0081272	CL2, TOTAL FINAL				0.018	0.071	9/1/09	9/30/09
VA0081272	TP YTD				0.78		9/1/09	9/30/09
VA0081272	FLOW	11.87	16.59				10/1/09	10/31/09
VA0081272	PH			6.0		6.9	10/1/09	10/31/09
VA0081272	BOD5	432	913		10	20	10/1/09	10/31/09
VA0081272	TSS	644	839		14	18	10/1/09	10/31/09
VA0081272	COLIFORM, FECAL				8		10/1/09	10/31/09
VA0081272	TP				0.95		10/1/09	10/31/09
VA0081272	ENTEROCOCCI				1		10/1/09	10/31/09
VA0081272	CL2, TOTAL CONTACT			0.19			10/1/09	10/31/09
VA0081272	CL2, TOTAL FINAL				<QL	<QL	10/1/09	10/31/09
VA0081272	TP YTD				0.80		10/1/09	10/31/09
VA0081272	FLOW	16.85	43.29				11/1/09	11/30/09
VA0081272	PH			6.2		7.0	11/1/09	11/30/09
VA0081272	BOD5	697	1931		8	19	11/1/09	11/30/09
VA0081272	TSS	1696	5351		19	47	11/1/09	11/30/09
VA0081272	COLIFORM, FECAL				2		11/1/09	11/30/09
VA0081272	TP				0.71		11/1/09	11/30/09
VA0081272	ENTEROCOCCI				1		11/1/09	11/30/09
VA0081272	CL2, TOTAL CONTACT			0.11			11/1/09	11/30/09
VA0081272	CL2, TOTAL FINAL				0.061	0.12	11/1/09	11/30/09
VA0081272	TP YTD				0.79		11/1/09	11/30/09
VA0081272	FLOW	20.52	34.26				12/1/09	12/31/09
VA0081272	PH			6.4		7.2	12/1/09	12/31/09
VA0081272	BOD5	1213	1941		14	18	12/1/09	12/31/09
VA0081272	TSS	1052	1830		12	17	12/1/09	12/31/09
VA0081272	COLIFORM, FECAL				4		12/1/09	12/31/09
VA0081272	TP				0.57		12/1/09	12/31/09
VA0081272	ENTEROCOCCI				1		12/1/09	12/31/09
VA0081272	CL2, TOTAL CONTACT			0.12			12/1/09	12/31/09
VA0081272	CL2, TOTAL FINAL				0.042	0.11	12/1/09	12/31/09
VA0081272	TP YTD				0.78		12/1/09	12/31/09
VA0081272	TP ANNUAL AVG				0.78		1/1/09	12/31/09
VA0081272	FLOW	17.17	26.69				1/1/10	1/31/10
VA0081272	PH			6.4		7.1	1/1/10	1/31/10
VA0081272	BOD5	1028	1712		14	19	1/1/10	1/31/10
VA0081272	TSS	1370	2915		17	31	1/1/10	1/31/10
VA0081272	COLIFORM, FECAL				81		1/1/10	1/31/10
VA0081272	TP				0.80		1/1/10	1/31/10
VA0081272	ENTEROCOCCI				19		1/1/10	1/31/10
VA0081272	CL2, TOTAL CONTACT			0.17			1/1/10	1/31/10
VA0081272	CL2, TOTAL FINAL				0.0078	0.031	1/1/10	1/31/10
VA0081272	TP YTD				0.81		1/1/10	1/31/10
VA0081272	FLOW	19.47	36.36				2/1/10	2/28/10
VA0081272	PH			6.4		7.1	2/1/10	2/28/10
VA0081272	BOD5	624	830		9	10	2/1/10	2/28/10
VA0081272	TSS	794	855		11	9.3	2/1/10	2/28/10
VA0081272	COLIFORM, FECAL				36		2/1/10	2/28/10
VA0081272	TP				0.37		2/1/10	2/28/10
VA0081272	ENTEROCOCCI				22		2/1/10	2/28/10
VA0081272	CL2, TOTAL CONTACT			0.14			2/1/10	2/28/10
VA0081272	CL2, TOTAL FINAL				0.044	0.052	2/1/10	2/28/10
VA0081272	TP YTD				0.60		2/1/10	2/28/10
VA0081272	FLOW	18.14	30.47				3/1/10	3/31/10
VA0081272	PH			6.4		7.1	3/1/10	3/31/10
VA0081272	BOD5	657	523		9	9	3/1/10	3/31/10
VA0081272	TSS	1119	867		15	15	3/1/10	3/31/10
VA0081272	COLIFORM, FECAL				54		3/1/10	3/31/10
VA0081272	TP				0.58		3/1/10	3/31/10
VA0081272	ENTEROCOCCI				22		3/1/10	3/31/10
VA0081272	CL2, TOTAL CONTACT			0.00			3/1/10	3/31/10
VA0081272	CL2, TOTAL FINAL				0.044	0.10	3/1/10	3/31/10
VA0081272	TP YTD				0.60		3/1/10	3/31/10
VA0081272	FLOW	14.60	19.07				4/1/10	4/30/10
VA0081272	PH			6.5		7.6	4/1/10	4/30/10

VA0081272	BOD5	435	633		8	10	4/1/10	4/30/10
VA0081272	TSS	670	978		12	18	4/1/10	4/30/10
VA0081272	COLIFORM, FECAL				11		4/1/10	4/30/10
VA0081272	TP				0.60		4/1/10	4/30/10
VA0081272	ENTEROCOCCI				2		4/1/10	4/30/10
VA0081272	CL2, TOTAL CONTACT			0.14			4/1/10	4/30/10
VA0081272	CL2, TOTAL FINAL				0.019	0.041	4/1/10	4/30/10
VA0081272	TP YTD				0.60		4/1/10	4/30/10
VA0081272	FLOW	12.70	17.78				5/1/10	5/31/10
VA0081272	PH			6.7		7.8	5/1/10	5/31/10
VA0081272	BOD5	252	286		5	6	5/1/10	5/31/10
VA0081272	TSS	485	511		10	11	5/1/10	5/31/10
VA0081272	COLIFORM, FECAL				3		5/1/10	5/31/10
VA0081272	TP				0.77		5/1/10	5/31/10
VA0081272	ENTEROCOCCI				2		5/1/10	5/31/10
VA0081272	CL2, TOTAL CONTACT			0.22			5/1/10	5/31/10
VA0081272	CL2, TOTAL FINAL				0.019	0.064	5/1/10	5/31/10
VA0081272	TP YTD				0.63		5/1/10	5/31/10
VA0081272	FLOW	11.67	12.80				6/1/10	6/30/10
VA0081272	PH			6.8		7.3	6/1/10	6/30/10
VA0081272	BOD5	231	258		5	6	6/1/10	6/30/10
VA0081272	TSS	350	389		8.0	9.1	6/1/10	6/30/10
VA0081272	COLIFORM, FECAL				3		6/1/10	6/30/10
VA0081272	TP				0.43		6/1/10	6/30/10
VA0081272	ENTEROCOCCI				1		6/1/10	6/30/10
VA0081272	CL2, TOTAL CONTACT			0.34			6/1/10	6/30/10
VA0081272	CL2, TOTAL FINAL				0.0060	<QL	6/1/10	6/30/10
VA0081272	TP YTD				0.60		6/1/10	6/30/10
VA0081272	FLOW	11.21	13.86				7/1/10	7/31/10
VA0081272	PH			6.9		7.4	7/1/10	7/31/10
VA0081272	BOD5	315	697		7	15	7/1/10	7/31/10
VA0081272	TSS	304	518		7.1	12	7/1/10	7/31/10
VA0081272	COLIFORM, FECAL				1		7/1/10	7/31/10
VA0081272	TP				0.65		7/1/10	7/31/10
VA0081272	ENTEROCOCCI				1		7/1/10	7/31/10
VA0081272	CL2, TOTAL CONTACT			0.19			7/1/10	7/31/10
VA0081272	CL2, TOTAL FINAL				<QL	<QL	7/1/10	7/31/10
VA0081272	TP YTD				0.61		7/1/10	7/31/10
VA0081272	FLOW	11.34	11.94				8/1/10	8/31/10
VA0081272	PH			6.1		7.0	8/1/10	8/31/10
VA0081272	BOD5	149	207		3	5	8/1/10	8/31/10
VA0081272	TSS	174	232		4.0	5.4	8/1/10	8/31/10
VA0081272	COLIFORM, FECAL				2		8/1/10	8/31/10
VA0081272	TP				0.56		8/1/10	8/31/10
VA0081272	ENTEROCOCCI				1		8/1/10	8/31/10
VA0081272	CL2, TOTAL CONTACT			0.060			8/1/10	8/31/10
VA0081272	CL2, TOTAL FINAL				0.0032	0.014	8/1/10	8/31/10
VA0081272	TP YTD				0.60		8/1/10	8/31/10
VA0081272	FLOW	12.44	37.83				9/1/10	9/30/10
VA0081272	PH			6.5		7.1	9/1/10	9/30/10
VA0081272	BOD5	834	508		11	11	9/1/10	9/30/10
VA0081272	TSS	1091	688		15	16	9/1/10	9/30/10
VA0081272	COLIFORM, FECAL				8		9/1/10	9/30/10
VA0081272	TP				1.1		9/1/10	9/30/10
VA0081272	ENTEROCOCCI				2		9/1/10	9/30/10
VA0081272	CL2, TOTAL CONTACT			0.080			9/1/10	9/30/10
VA0081272	CL2, TOTAL FINAL				0.0040	0.017	9/1/10	9/30/10
VA0081272	TP YTD				0.67		9/1/10	9/30/10
VA0081272	FLOW	13.81	29.82				10/1/10	10/31/10
VA0081272	PH			6.3		7.1	10/1/10	10/31/10
VA0081272	BOD5	316	385		6	7	10/1/10	10/31/10
VA0081272	TSS	492	649		9.6	13	10/1/10	10/31/10
VA0081272	COLIFORM, FECAL				12		10/1/10	10/31/10
VA0081272	TP				1.2		10/1/10	10/31/10
VA0081272	ENTEROCOCCI				3		10/1/10	10/31/10

VA0081272	CL2, TOTAL CONTACT			0.11			10/1/10	10/31/10
VA0081272	CL2, TOTAL FINAL				0.0084	0.014	10/1/10	10/31/10
VA0081272	TP YTD				0.72		10/1/10	10/31/10
VA0081272	FLOW	11.90	13.04				11/1/10	11/30/10
VA0081272	PH			6.3		7.0	11/1/10	11/30/10
VA0081272	BOD5	193	210		4	5	11/1/10	11/30/10
VA0081272	TSS	301	349		6.7	8.0	11/1/10	11/30/10
VA0081272	COLIFORM, FECAL				1		11/1/10	11/30/10
VA0081272	TP				1.0		11/1/10	11/30/10
VA0081272	ENTEROCOCCI				1		11/1/10	11/30/10
VA0081272	CL2, TOTAL CONTACT			0.22			11/1/10	11/30/10
VA0081272	CL2, TOTAL FINAL				<QL	<QL	11/1/10	11/30/10
VA0081272	TP YTD				0.74		11/1/10	11/30/10
VA0081272	FLOW	11.83	14.03				12/1/10	12/31/10
VA0081272	PH			6.3		7.2	12/1/10	12/31/10
VA0081272	BOD5	349	424		8	9	12/1/10	12/31/10
VA0081272	TSS	405	619		8.9	14	12/1/10	12/31/10
VA0081272	COLIFORM, FECAL				2		12/1/10	12/31/10
VA0081272	TP				0.96		12/1/10	12/31/10
VA0081272	ENTEROCOCCI				1		12/1/10	12/31/10
VA0081272	CL2, TOTAL CONTACT			0.15			12/1/10	12/31/10
VA0081272	CL2, TOTAL FINAL				0.024	0.066	12/1/10	12/31/10
VA0081272	TP YTD				0.76		12/1/10	12/31/10
VA0081272	TP ANNUAL AVG				0.76		1/1/10	12/31/10
VA0081272	FLOW	13.55	17.75				1/1/11	1/31/11
VA0081272	PH			6.7		9.3	1/1/11	1/31/11
VA0081272	BOD5	963	1782		19	37	1/1/11	1/31/11
VA0081272	TSS	644	894		12	18	1/1/11	1/31/11
VA0081272	COLIFORM, FECAL				2		1/1/11	1/31/11
VA0081272	TP				1.1		1/1/11	1/31/11
VA0081272	ENTEROCOCCI				2		1/1/11	1/31/11
VA0081272	CL2, TOTAL CONTACT			0.00			1/1/11	1/31/11
VA0081272	CL2, TOTAL FINAL				0.015	0.064	1/1/11	1/31/11
VA0081272	TP YTD				1.1		1/1/11	1/31/11
VA0081272	FLOW	12.46	14.47				2/1/11	2/28/11
VA0081272	PH			7.1		7.4	2/1/11	2/28/11
VA0081272	BOD5	320	364		7	7	2/1/11	2/28/11
VA0081272	TSS	353	497		7.3	9.8	2/1/11	2/28/11
VA0081272	COLIFORM, FECAL				6		2/1/11	2/28/11
VA0081272	TP				0.60		2/1/11	2/28/11
VA0081272	ENTEROCOCCI				1		2/1/11	2/28/11
VA0081272	CL2, TOTAL CONTACT			0.39			2/1/11	2/28/11
VA0081272	CL2, TOTAL FINAL				0.023	<QL	2/1/11	2/28/11
VA0081272	TP YTD				0.84		2/1/11	2/28/11
VA0081272	FLOW	12.55	14.87				3/1/11	3/31/11
VA0081272	PH			7.0		7.4	3/1/11	3/31/11
VA0081272	BOD5	271	321		6	6	3/1/11	3/31/11
VA0081272	TSS	286	352		5.9	7.0	3/1/11	3/31/11
VA0081272	COLIFORM, FECAL				4		3/1/11	3/31/11
VA0081272	TP				0.84		3/1/11	3/31/11
VA0081272	ENTEROCOCCI				2		3/1/11	3/31/11
VA0081272	CL2, TOTAL CONTACT			0.11			3/1/11	3/31/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	3/1/11	3/31/11
VA0081272	TP YTD				0.84		3/1/11	3/31/11
VA0081272	FLOW	12.03	13.30				4/1/11	4/30/11
VA0081272	PH			7.0		7.2	4/1/11	4/30/11
VA0081272	BOD5	230	245		5	5	4/1/11	4/30/11
VA0081272	TSS	228	266		5.0	5.8	4/1/11	4/30/11
VA0081272	COLIFORM, FECAL				4		4/1/11	4/30/11
VA0081272	TP				0.74		4/1/11	4/30/11
VA0081272	ENTEROCOCCI				1		4/1/11	4/30/11
VA0081272	CL2, TOTAL CONTACT			0.14			4/1/11	4/30/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	4/1/11	4/30/11
VA0081272	TP YTD				0.81		4/1/11	4/30/11
VA0081272	FLOW	11.38	12.19				5/1/11	5/31/11

VA0081272	PH			6.8		7.4	5/1/11	5/31/11
VA0081272	BOD5	372	565		9	13	5/1/11	5/31/11
VA0081272	TSS	329	495		7.6	12	5/1/11	5/31/11
VA0081272	COLIFORM, FECAL				3		5/1/11	5/31/11
VA0081272	TP				1.4		5/1/11	5/31/11
VA0081272	ENTEROCOCCI				1		5/1/11	5/31/11
VA0081272	CL2, TOTAL CONTACT			0.36			5/1/11	5/31/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	5/1/11	5/31/11
VA0081272	TP YTD				0.92		5/1/11	5/31/11
VA0081272	FLOW	11.55	15.64				6/1/11	6/30/11
VA0081272	PH			6.9		7.7	6/1/11	6/30/11
VA0081272	BOD5	420	320		9	7	6/1/11	6/30/11
VA0081272	TSS	338	317		7.2	7.4	6/1/11	6/30/11
VA0081272	COLIFORM, FECAL				3		6/1/11	6/30/11
VA0081272	TP				1.9		6/1/11	6/30/11
VA0081272	ENTEROCOCCI				1		6/1/11	6/30/11
VA0081272	CL2, TOTAL CONTACT			0.13			6/1/11	6/30/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	6/1/11	6/30/11
VA0081272	TP YTD				1.1		6/1/11	6/30/11
VA0081272	FLOW	13.43	29.67				7/1/11	7/31/11
VA0081272	PH			6.7		7.2	7/1/11	7/31/11
VA0081272	BOD5	350	807		7	15	7/1/11	7/31/11
VA0081272	TSS	333	653		6.4	12	7/1/11	7/31/11
VA0081272	COLIFORM, FECAL				8		7/1/11	7/31/11
VA0081272	TP				0.91		7/1/11	7/31/11
VA0081272	ENTEROCOCCI				2		7/1/11	7/31/11
VA0081272	CL2, TOTAL CONTACT			0.10			7/1/11	7/31/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	7/1/11	7/31/11
VA0081272	TP YTD				1.1		7/1/11	7/31/11
VA0081272	FLOW	12.52	25.69				8/1/11	8/31/11
VA0081272	PH			6.7		7.2	8/1/11	8/31/11
VA0081272	BOD5	166	138		3	3	8/1/11	8/31/11
VA0081272	TSS	212	144		4.0	3.4	8/1/11	8/31/11
VA0081272	COLIFORM, FECAL				3		8/1/11	8/31/11
VA0081272	TP				1.5		8/1/11	8/31/11
VA0081272	ENTEROCOCCI				2		8/1/11	8/31/11
VA0081272	CL2, TOTAL CONTACT			0.10			8/1/11	8/31/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	8/1/11	8/31/11
VA0081272	TP YTD				1.1		8/1/11	8/31/11
VA0081272	FLOW	14.81	18.65				9/1/11	9/30/11
VA0081272	PH			6.9		7.6	9/1/11	9/30/11
VA0081272	BOD5	510	1199		9	20	9/1/11	9/30/11
VA0081272	TSS	624	1601		11	27	9/1/11	9/30/11
VA0081272	COLIFORM, FECAL				6		9/1/11	9/30/11
VA0081272	TP				1.8		9/1/11	9/30/11
VA0081272	ENTEROCOCCI				3		9/1/11	9/30/11
VA0081272	CL2, TOTAL CONTACT			0.13			9/1/11	9/30/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	9/1/11	9/30/11
VA0081272	TP YTD				1.2		9/1/11	9/30/11
VA0081272	FLOW	12.95	16.97				10/1/11	10/31/11
VA0081272	PH			6.8		7.1	10/1/11	10/31/11
VA0081272	BOD5	380	582		8	11	10/1/11	10/31/11
VA0081272	TSS	377	504		7.7	9.5	10/1/11	10/31/11
VA0081272	COLIFORM, FECAL				2		10/1/11	10/31/11
VA0081272	TP				1.2		10/1/11	10/31/11
VA0081272	ENTEROCOCCI				1		10/1/11	10/31/11
VA0081272	CL2, TOTAL CONTACT			0.11			10/1/11	10/31/11
VA0081272	CL2, TOTAL FINAL				<QL	<QL	10/1/11	10/31/11
VA0081272	TP YTD				1.2		10/1/11	10/31/11
VA0081272	FLOW	12.51	14.97				11/1/11	11/30/11
VA0081272	PH			6.7		7.1	11/1/11	11/30/11
VA0081272	BOD5	427	837		9	17	11/1/11	11/30/11
VA0081272	TSS	506	1028		10	21	11/1/11	11/30/11
VA0081272	COLIFORM, FECAL				1		11/1/11	11/30/11
VA0081272	TP				3.1		11/1/11	11/30/11

VA0081272	ENTEROCOCCI				1		11/1/11	11/30/11
VA0081272	CL2, TOTAL CONTACT			0.16			11/1/11	11/30/11
VA0081272	CL2, TOTAL FINAL				0.0033	0.014	11/1/11	11/30/11
VA0081272	TP YTD				1.4		11/1/11	11/30/11
VA0081272	FLOW	11.79	12.52				12/1/11	12/31/11
VA0081272	PH			6.5		7.1	12/1/11	12/31/11
VA0081272	BOD5	323	477		7	10	12/1/11	12/31/11
VA0081272	TSS	319	382		7.1	8.3	12/1/11	12/31/11
VA0081272	COLIFORM, FECAL				1		12/1/11	12/31/11
VA0081272	TP				1.4		12/1/11	12/31/11
VA0081272	ENTEROCOCCI				2		12/1/11	12/31/11
VA0081272	CL2, TOTAL CONTACT			0.35			12/1/11	12/31/11
VA0081272	CL2, TOTAL FINAL				0.011	0.043	12/1/11	12/31/11
VA0081272	TP YTD				1.4		12/1/11	12/31/11
VA0081272	TP ANNUAL AVG				1.4		1/1/11	12/31/11
VA0081272	FLOW	11.93	13.10				1/1/12	1/31/12
VA0081272	PH			6.4		7.2	1/1/12	1/31/12
VA0081272	BOD5	345	419		8	10	1/1/12	1/31/12
VA0081272	TSS	325	377		7.3	8.6	1/1/12	1/31/12
VA0081272	COLIFORM, FECAL				2		1/1/12	1/31/12
VA0081272	TP				1.1		1/1/12	1/31/12
VA0081272	ENTEROCOCCI				1		1/1/12	1/31/12
VA0081272	CL2, TOTAL CONTACT			0.14			1/1/12	1/31/12
VA0081272	CL2, TOTAL FINAL				<QL	<QL	1/1/12	1/31/12
VA0081272	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				1.1		1/1/12	1/31/12
VA0081272	TP YTD						1/1/12	1/31/12
VA0081272	FLOW	12.75	15.90				2/1/12	2/29/12
VA0081272	PH			6.4		7.2	2/1/12	2/29/12
VA0081272	BOD5	332	610		7	11	2/1/12	2/29/12
VA0081272	TSS	323	588		6	11	2/1/12	2/29/12
VA0081272	COLIFORM, FECAL				2		2/1/12	2/29/12
VA0081272	TP				0.82		2/1/12	2/29/12
VA0081272	ENTEROCOCCI				2		2/1/12	2/29/12
VA0081272	CL2, TOTAL CONTACT			0.17			2/1/12	2/29/12
VA0081272	CL2, TOTAL FINAL				<QL	<QL	2/1/12	2/29/12
VA0081272	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				1.0		2/1/12	2/29/12
VA0081272	TP YTD						2/1/12	2/29/12
VA0081272	FLOW	13.28	15.11				3/1/12	3/31/12
VA0081272	PH			6.3		7.0	3/1/12	3/31/12
VA0081272	BOD5	215	243		4	5	3/1/12	3/31/12
VA0081272	TSS	254	311		5	6	3/1/12	3/31/12
VA0081272	COLIFORM, FECAL				2		3/1/12	3/31/12
VA0081272	TP				0.75		3/1/12	3/31/12
VA0081272	ENTEROCOCCI				1		3/1/12	3/31/12
VA0081272	CL2, TOTAL CONTACT			0.36			3/1/12	3/31/12
VA0081272	CL2, TOTAL FINAL				0.0048	0.021	3/1/12	3/31/12
VA0081272	NITROGEN, TOTAL (AS N) (YEAR-TO-DATE)				0.90		3/1/12	3/31/12
VA0081272	TP YTD						3/1/12	3/31/12

Data pulled from discoverer
5/1/12 DDA

SALTWATER AND TRANSITION ZONES
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: HRSD James River STP Permit No.: VA0081272 Version: OWP Guidance Memo 00-2011 (8/24/00)
Receiving Stream: James River

Stream Information		
Mean Hardness (as CaCO3) =		mg/l
90th % Temperature (Annual) =	27.3	(° C)
90th % Temperature (Winter) =		(° C)
90th % Maximum pH =	8	
10th % Maximum pH =		
Tier Designation (1 or 2) =	1	
Early Life Stages Present Y/N =	Y	
Tidal Zone =	1	(1 = saltwater, 2 = transition zone)
Mean Salinity =	9.7	(g/kg)

Mixing Information	
Design Flow (MGD)	20
Acute WLA multiplier	35
Chronic WLA multiplier	150
Human health WLA multiplier	150

Effluent Information		
Mean Hardness (as CaCO3) =	94	mg/L
90 % Temperature (Annual) =		(° C)
90 % Temperature (Winter) =	18	(° C)
90 % Maximum pH =	7.7	SU
10 % Maximum pH =	6.9	SU
Discharge Flow =	20	MGD

Parameter	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
(ug/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Acenapthene	0	--	--	9.9E+02	--	--	1.5E+05	--	--	--	--	--	--	--	--	1.5E+05
Acrolein		--	--	9.3E+00	--	--	1.4E+03	--	--	--	--	--	--	--	--	1.4E+03
Acrylonitrile[C]		--	--	2.5E+00	--	--	3.8E+02	--	--	--	--	--	--	--	--	3.8E+02
Aldrin [C]	0	1.3E+00	--	5.0E-04	4.6E+01	--	7.5E-02	--	--	--	--	--	--	4.6E+01	--	7.5E-02
Ammonia-N (mg/l) - Annual	0	3.47E+00	4.91E-01	--	1.22E+02	7.37E+01	--	--	--	--	--	--	--	1.22E+02	7.37E+01	--
Ammonia-N (mg/l) - Winter	0	2.30E+01	3.49E+00	--	8.06E+02	5.24E+02	--	--	--	--	--	--	--	8.06E+02	5.24E+02	--
Anthracene	0	--	--	4.0E+04	--	--	6.0E+06	--	--	--	--	--	--	--	--	6.0E+06
Antimony	0	--	--	6.4E+02	--	--	9.6E+04	--	--	--	--	--	--	--	--	9.6E+04
Arsenic	0	6.9E+01	3.6E+01	--	2.4E+03	5.4E+03	--	--	--	--	--	--	--	2.4E+03	5.4E+03	--
Benzene [C]	0	--	--	5.1E+02	--	--	7.7E+04	--	--	--	--	--	--	--	--	7.7E+04
Benzidine[C]		--	--	2.0E-03	--	--	3.0E-01	--	--	--	--	--	--	--	--	3.0E-01
Benzo (a) anthracene [C]	0	--	--	1.8E-01	--	--	2.7E+01	--	--	--	--	--	--	--	--	2.7E+01
Benzo (b) fluoranthene [C]	0	--	--	1.8E-01	--	--	2.7E+01	--	--	--	--	--	--	--	--	2.7E+01
Benzo (k) fluoranthene [C]	0	--	--	1.8E-01	--	--	2.7E+01	--	--	--	--	--	--	--	--	2.7E+01
Benzo (a) pyrene [C]	0	--	--	1.8E-01	--	--	2.7E+01	--	--	--	--	--	--	--	--	2.7E+01
Bis2-Chloroethyl Ether[C]	0	--	--	5.3E+00	--	--	8.0E+02	--	--	--	--	--	--	--	--	8.0E+02
Bis2-Chloroisopropyl Ether	0	--	--	6.5E+04	--	--	9.8E+06	--	--	--	--	--	--	--	--	9.8E+06
Bis2-Ethylhexyl Phthalate[C]	0	--	--	2.2E+01	--	--	3.3E+03	--	--	--	--	--	--	--	--	3.3E+03
Bromoform [C]	0	--	--	1.4E+03	--	--	2.1E+05	--	--	--	--	--	--	--	--	2.1E+05
Butylbenzylphthalate	0	--	--	1.9E+03	--	--	2.9E+05	--	--	--	--	--	--	--	--	2.9E+05
Cadmium	0	4.0E+01	8.8E+00	--	1.4E+03	1.3E+03	--	--	--	--	--	--	--	1.4E+03	1.3E+03	--
Carbon Tetrachloride [C]	0	--	--	1.6E+01	--	--	2.4E+03	--	--	--	--	--	--	--	--	2.4E+03
Chlordane [C]	0	9.0E-02	4.0E-03	8.1E-03	3.2E+00	6.0E-01	1.2E+00	--	--	--	--	--	--	3.2E+00	6.0E-01	1.2E+00

Parameter	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
(ug/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
TRC	0			--			--	--	--	--	--	--	--	--	--	--
Chlorine Prod. Oxidant	0	1.3E+01	7.5E+00	--	4.6E+02	1.1E+03	--	--	--	--	--	--	--	4.6E+02	1.1E+03	--
Chlorobenzene		--	--	1.6E+03	--	--	2.4E+05	--	--	--	--	--	--	--	--	2.4E+05
Chlorodibromomethane[C]	0	--	--	1.3E+02	--	--	2.0E+04	--	--	--	--	--	--	--	--	2.0E+04
Chloroform	0	--	--	1.1E+04	--	--	1.7E+06	--	--	--	--	--	--	--	--	1.7E+06
2-Chloronaphthalene	0	--	--	1.6E+03	--	--	2.4E+05	--	--	--	--	--	--	--	--	2.4E+05
2-Chlorophenol	0	--	--	1.5E+02	--	--	2.3E+04	--	--	--	--	--	--	--	--	2.3E+04
Chlorpyrifos	0	1.1E-02	5.6E-03	--	3.9E-01	8.4E-01	--	--	--	--	--	--	--	3.9E-01	8.4E-01	--
Chromium III	0			--			--	--	--	--	--	--	--	--	--	--
Chromium VI	0	1.1E+03	5.0E+01	--	3.9E+04	7.5E+03	--	--	--	--	--	--	--	3.9E+04	7.5E+03	--
Chrysene [C]	0	--	--	1.8E-02	--	--	2.7E+00	--	--	--	--	--	--	--	--	2.7E+00
Copper	0	9.3E+00	6.0E+00	--	3.3E+02	9.0E+02	--	--	--	--	--	--	--	3.3E+02	9.0E+02	--
Cyanide, Free	0	1.0E+00	1.0E+00	1.6E+04	3.5E+01	1.5E+02	2.4E+06	--	--	--	--	--	--	3.5E+01	1.5E+02	2.4E+06
DDD [C]	0	--	--	3.1E-03	--	--	4.7E-01	--	--	--	--	--	--	--	--	4.7E-01
DDE [C]	0	--	--	2.2E-03	--	--	3.3E-01	--	--	--	--	--	--	--	--	3.3E-01
DDT [C]	0	1.3E-01	1.0E-03	2.2E-03	4.6E+00	1.5E-01	3.3E-01	--	--	--	--	--	--	4.6E+00	1.5E-01	3.3E-01
Demeton	0	--	1.0E-01	--	--	1.5E+01	--	--	--	--	--	--	--	--	1.5E+01	--
Diazinon	0	8.2E-01	8.2E-01	--	2.9E+01	1.2E+02	--	--	--	--	--	--	--	2.9E+01	1.2E+02	--
Dibenz(a,h)anthracene [C]	0	--	--	1.8E-01	--	--	2.7E+01	--	--	--	--	--	--	--	--	2.7E+01
1,2-Dichlorobenzene	0	--	--	1.3E+03	--	--	2.0E+05	--	--	--	--	--	--	--	--	2.0E+05
1,3-Dichlorobenzene	0	--	--	9.6E+02	--	--	1.4E+05	--	--	--	--	--	--	--	--	1.4E+05
1,4-Dichlorobenzene	0	--	--	1.9E+02	--	--	2.9E+04	--	--	--	--	--	--	--	--	2.9E+04
3,3-Dichlorobenzidine[C]	0	--	--	2.8E-01	--	--	4.2E+01	--	--	--	--	--	--	--	--	4.2E+01
Dichlorobromomethane [C]	0	--	--	1.7E+02	--	--	2.6E+04	--	--	--	--	--	--	--	--	2.6E+04
1,2-Dichloroethane [C]	0	--	--	3.7E+02	--	--	5.6E+04	--	--	--	--	--	--	--	--	5.6E+04
1,1-Dichloroethylene	0	--	--	7.1E+03	--	--	1.1E+06	--	--	--	--	--	--	--	--	1.1E+06
1,2-trans-dichloroethylene	0	--	--	1.0E+04	--	--	1.5E+06	--	--	--	--	--	--	--	--	1.5E+06
2,4-Dichlorophenol	0	--	--	2.9E+02	--	--	4.4E+04	--	--	--	--	--	--	--	--	4.4E+04
1,2-Dichloropropane[C]	0	--	--	1.5E+02	--	--	2.3E+04	--	--	--	--	--	--	--	--	2.3E+04
1,3-Dichloropropene[C]	0	--	--	2.1E+02	--	--	3.2E+04	--	--	--	--	--	--	--	--	3.2E+04
Dieldrin [C]	0	7.1E-01	1.9E-03	5.4E-04	2.5E+01	2.9E-01	8.1E-02	--	--	--	--	--	--	2.5E+01	2.9E-01	8.1E-02
Diethyl Phthalate	0	--	--	4.4E+04	--	--	6.6E+06	--	--	--	--	--	--	--	--	6.6E+06
2,4-Dimethylphenol	0	--	--	8.5E+02	--	--	1.3E+05	--	--	--	--	--	--	--	--	1.3E+05
Dimethyl Phthalate	0	--	--	1.1E+06	--	--	1.7E+08	--	--	--	--	--	--	--	--	1.7E+08
Di-n-Butyl Phthalate	0	--	--	4.5E+03	--	--	6.8E+05	--	--	--	--	--	--	--	--	6.8E+05
2,4 Dinitrophenol	0	--	--	5.3E+03	--	--	8.0E+05	--	--	--	--	--	--	--	--	8.0E+05
2-Methyl-4,6-Dinitrophenol	0	--	--	2.8E+02	--	--	4.2E+04	--	--	--	--	--	--	--	--	4.2E+04
2,4-Dinitrotoluene [C]	0	--	--	3.4E+01	--	--	5.1E+03	--	--	--	--	--	--	--	--	5.1E+03
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	5.1E-08	--	--	7.7E-06	--	--	--	--	--	--	--	--	7.7E-06
1,2-Diphenylhydrazine[C]	0	--	--	2.0E+00	--	--	3.0E+02	--	--	--	--	--	--	--	--	3.0E+02
Alpha-Endosulfan	0	3.4E-02	8.7E-03	8.9E+01	1.2E+00	1.3E+00	1.3E+04	--	--	--	--	--	--	1.2E+00	1.3E+00	1.3E+04

Parameter	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
(ug/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Beta-Endosulfan	0	3.4E-02	8.7E-03	8.9E+01	1.2E+00	1.3E+00	1.3E+04	--	--	--	--	--	--	1.2E+00	1.3E+00	1.3E+04
Alpha + Beta Endosulfan	0	3.4E-02	8.7E-03	--	1.2E+00	1.3E+00	--	--	--	--	--	--	--	1.2E+00	1.3E+00	--
Endosulfan Sulfate	0	--	--	8.9E+01	--	--	1.3E+04	--	--	--	--	--	--	--	--	1.3E+04
Endrin	0	3.7E-02	2.3E-03	6.0E-02	1.3E+00	3.5E-01	9.0E+00	--	--	--	--	--	--	1.3E+00	3.5E-01	9.0E+00
Endrin Aldehyde	0	--	--	3.0E-01	--	--	4.5E+01	--	--	--	--	--	--	--	--	4.5E+01
Ethylbenzene	0	--	--	2.1E+03	--	--	3.2E+05	--	--	--	--	--	--	--	--	3.2E+05
Fluoranthene	0	--	--	1.4E+02	--	--	2.1E+04	--	--	--	--	--	--	--	--	2.1E+04
Fluorene	0	--	--	5.3E+03	--	--	8.0E+05	--	--	--	--	--	--	--	--	8.0E+05
Guthion	0	--	1.0E-02	--	--	1.5E+00	--	--	--	--	--	--	--	--	1.5E+00	--
Heptachlor [C]	0	5.3E-02	3.6E-03	7.9E-04	1.9E+00	5.4E-01	1.2E-01	--	--	--	--	--	--	1.9E+00	5.4E-01	1.2E-01
Heptachlor Epoxide [C]	0	5.3E-02	3.6E-03	3.9E-04	1.9E+00	5.4E-01	5.9E-02	--	--	--	--	--	--	1.9E+00	5.4E-01	5.9E-02
Hexachlorobenzene [C]	0	--	--	2.9E-03	--	--	4.4E-01	--	--	--	--	--	--	--	--	4.4E-01
Hexachlorobutadiene [C]	0	--	--	1.8E+02	--	--	2.7E+04	--	--	--	--	--	--	--	--	2.7E+04
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	4.9E-02	--	--	7.4E+00	--	--	--	--	--	--	--	--	7.4E+00
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	1.7E-01	--	--	2.6E+01	--	--	--	--	--	--	--	--	2.6E+01
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	1.6E-01	--	1.8E+00	5.6E+00	--	2.7E+02	--	--	--	--	--	--	5.6E+00	--	2.7E+02
Hexachlorocyclopentadiene	0	--	--	1.1E+03	--	--	1.7E+05	--	--	--	--	--	--	--	--	1.7E+05
Hexachloroethane [C]	0	--	--	3.3E+01	--	--	5.0E+03	--	--	--	--	--	--	--	--	5.0E+03
Hydrogen Sulfide	0	--	2.0E+00	--	--	3.0E+02	--	--	--	--	--	--	--	--	3.0E+02	--
Indeno (1,2,3-cd) pyrene C	0	--	--	1.8E-01	--	--	2.7E+01	--	--	--	--	--	--	--	--	2.7E+01
Isophorone [C]	0	--	--	9.6E+03	--	--	1.4E+06	--	--	--	--	--	--	--	--	1.4E+06
Kepone	0	--	0.0E+00	--	--	0.0E+00	--	--	--	--	--	--	--	--	0.0E+00	--
Lead	0	2.4E+02	9.3E+00	--	8.4E+03	1.4E+03	--	--	--	--	--	--	--	8.4E+03	1.4E+03	--
Malathion	0	--	1.0E-01	--	--	1.5E+01	--	--	--	--	--	--	--	--	1.5E+01	--
Mercury	0	1.8E+00	9.4E-01	--	6.3E+01	1.4E+02	--	--	--	--	--	--	--	6.3E+01	1.4E+02	--
Methyl Bromide	0	--	--	1.5E+03	--	--	2.3E+05	--	--	--	--	--	--	--	--	2.3E+05
Methylene Chloride [C]	0	--	--	5.9E+03	--	--	8.9E+05	--	--	--	--	--	--	--	--	8.9E+05
Methoxychlor	0	--	3.0E-02	--	--	4.5E+00	--	--	--	--	--	--	--	--	4.5E+00	--
Mirex	0	--	0.0E+00	--	--	0.0E+00	--	--	--	--	--	--	--	--	0.0E+00	--
Nickel	0	7.4E+01	8.2E+00	4.6E+03	2.6E+03	1.2E+03	6.9E+05	--	--	--	--	--	--	2.6E+03	1.2E+03	6.9E+05
Nitrobenzene	0	--	--	6.9E+02	--	--	1.0E+05	--	--	--	--	--	--	--	--	1.0E+05
N-Nitrosodimethylamine [C]	0	--	--	3.0E+01	--	--	4.5E+03	--	--	--	--	--	--	--	--	4.5E+03
N-Nitrosodiphenylamine [C]	0	--	--	6.0E+01	--	--	9.0E+03	--	--	--	--	--	--	--	--	9.0E+03
N-Nitrosodi-n-propylamine [C]	0	--	--	5.1E+00	--	--	7.7E+02	--	--	--	--	--	--	--	--	7.7E+02
Nonylphenol	0	7.0E+00	1.7E+00	--	2.5E+02	2.6E+02	--	--	--	--	--	--	--	2.5E+02	2.6E+02	--
Parathion	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB Total [C]	0	--	3.0E-02	6.4E-04	--	4.5E+00	9.6E-02	--	--	--	--	--	--	--	4.5E+00	9.6E-02
Pentachlorophenol [C]	0	1.3E+01	7.9E+00	3.0E+01	4.6E+02	1.2E+03	4.5E+03	--	--	--	--	--	--	4.6E+02	1.2E+03	4.5E+03

Parameter	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			**Most Limiting Allocations**		
(ug/l unless noted)	Conc.	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	**Acute**	**Chronic**	**HH**
Phenol	0	--	--	8.6E+05	--	--	1.3E+08	--	--	--	--	--	--	**--**	**--**	**1.3E+08**
Phosphorus (Elemental)	0	--	1.0E-01	--	--	1.5E+01	--	--	--	--	--	--	--	--	**1.5E+01**	**--**
Pyrene	0	--	--	4.0E+03	--	--	6.0E+05	--	--	--	--	--	--	**--**	**--**	**6.0E+05**
Selenium	0	2.9E+02	7.1E+01	4.2E+03	1.0E+04	1.1E+04	6.3E+05	--	--	--	--	--	--	**1.0E+04**	**1.1E+04**	**6.3E+05**
Silver	0	1.9E+00	--	--	6.7E+01	--	--	--	--	--	--	--	--	**6.7E+01**	**--**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	4.0E+01	--	--	6.0E+03	--	--	--	--	--	--	**--**	**--**	**6.0E+03**
Tetrachloroethylene[C]	0	--	--	3.3E+01	--	--	5.0E+03	--	--	--	--	--	--	**--**	**--**	**5.0E+03**
Thallium	0	--	--	4.7E-01	--	--	7.1E+01	--	--	--	--	--	--	**--**	**--**	**7.1E+01**
Toluene	0	--	--	6.0E+03	--	--	9.0E+05	--	--	--	--	--	--	**--**	**--**	**9.0E+05**
Toxaphene [C]	0	2.1E-01	2.0E-04	2.8E-03	7.4E+00	3.0E-02	4.2E-01	--	--	--	--	--	--	**7.4E+00**	**3.0E-02**	**4.2E-01**
Tributyltin	0	4.2E-01	7.4E-03	--	1.5E+01	1.1E+00	--	--	--	--	--	--	--	**1.5E+01**	**1.1E+00**	**--**
1,2,4-Trichlorobenzene	0	--	--	7.0E+01	--	--	1.1E+04	--	--	--	--	--	--	**--**	**--**	**1.1E+04**
1,1,2-Trichloroethane[C]		--	--	1.6E+02	--	--	2.4E+04	--	--	--	--	--	--	**--**	**--**	**2.4E+04**
Trichloroethylene [C]	0	--	--	3.0E+02	--	--	4.5E+04	--	--	--	--	--	--	**--**	**--**	**4.5E+04**
2,4,6-Trichlorophenol [C]	0	--	--	2.4E+01	--	--	3.6E+03	--	--	--	--	--	--	**--**	**--**	**3.6E+03**
Vinyl Chloride[C]	0	--	--	2.4E+01	--	--	3.6E+03	--	--	--	--	--	--	**--**	**--**	**3.6E+03**
Zinc	0	9.0E+01	8.1E+01	2.6E+04	3.2E+03	1.2E+04	3.9E+06	--	--	--	--	--	--	**3.2E+03**	**1.2E+04**	**3.9E+06**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. For transition zone waters, spreadsheet prints the lesser of the freshwater and saltwater water quality criteria.
6. Regular WLA = (WQC x WLA multiplier) - (WLA multiplier - 1)(background conc.)
7. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
8. Antideg. WLA = (Antideg. Baseline)(WLA multiplier) - (WLA multiplier - 1)(background conc.)

Metal	Site Specific Target Value (SSTV)
Antimony	9.6E+04
Arsenic III	9.7E+02
Cadmium	5.6E+02
Chromium III	#VALUE!
Chromium VI	4.5E+03
Copper	1.3E+02
Lead	8.4E+02
Mercury	2.5E+01
Nickel	7.4E+02
Selenium	4.1E+03
Silver	2.7E+01
Zinc	1.3E+03

Note: do not use QL's lower than the minimum QL's provided in agency guidance

VIRGINIA DEQ NO EXPOSURE CERTIFICATION
FOR EXCLUSION FROM VPDES STORM WATER PERMITTING

Submission of this **No Exposure Certification** constitutes notice that the entity identified below does not require permit authorization for its storm water discharges associated with industrial activity under the VPDES Permit Program due to the existence of a condition of **No Exposure**.

A condition of **No Exposure** exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the No Exposure exclusion. In addition, the exclusion from VPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the No Exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity below is certifying that a condition of No Exposure exists at its facility or site, and is obligated to comply with the terms and conditions at 9 VAC 25-31-120 E (the VPDES Permit Regulation).

Please Type or Print All Information. ALL INFORMATION ON THIS FORM MUST BE PROVIDED.

1. **Facility Operator Information**

   Name: Hampton Roads Sanitation District

   Mailing Address: 1436 Air Rail Avenue

   City: Virginia Beach State: VA Zip: 23455 Phone: 757-460-2261

2. **Facility/Site Location Information**

   Facility Name: James River STP

   Address: 111 City Farm Road

   City: Newport News State: VA Zip: 23602

   County Name:

   Latitude: 37 05' 00" Longitude: 76 32' 00

3. **Was the facility or site previously covered under a VPDES storm water permit?** Yes ☑ No ☐

   If "Yes", enter the VPDES permit number: VA0081272

4. **SIC/Activity Codes:** Primary: 4952 Secondary (if applicable):

5. **Total size of facility/site associated with industrial activity:** 3.31 acres

6. **Have you paved or roofed over a formerly exposed pervious area in order to qualify for the No Exposure exclusion?** Yes ☐ No ☑

   If "Yes", please indicate approximately how much area was paved or roofed. Completing this question does not disqualify you for the No Exposure exclusion. However, DEQ may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

   Less than one acre ☐ One to five acres ☐ More than five acres ☐

7. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions (1) through (11), you are not eligible for the No Exposure exclusion.**

	Yes	No
(1) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	☐	☑
(2) Materials or residuals on the ground or in storm water inlets from spill/leaks	☐	☑
(3) Materials or products from past industrial activity	☐	☑
(4) Material handling equipment (except adequately maintained vehicles)	☐	☑
(5) Materials or products during loading/unloading or transporting activities	☐	☑
(6) Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	☐	☑
(7) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	☐	☑
(8) Materials or products handled/stored on roads or railways owned or maintained by the discharger	☐	☑
(9) Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	☐	☑
(10) Application or disposal of process wastewater (unless otherwise permitted)	☐	☑
(11) Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	☐	☑

8. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of no exposure and obtaining an exclusion from VPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under 9 VAC 25-31-120 E 2).

I understand that I am obligated to submit a No Exposure Certification form once every five years to the Department of Environmental Quality and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the Department, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under a VPDES permit prior to any point source discharge of storm water associated with industrial activity from the facility.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: Edward G. Henifin, P.E.

Print Title: General Manager

Signature: [signature]

Date: 4/17/2012

For Department of Environmental Quality Use Only

Accepted/Not Accepted by: _____ Date: 5/4/12

ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. Additional Total Residual Chlorine (TRC) Limitations and Monitoring Requirements

Rationale: Required by Water Quality Standards, 9VAC 25-260-170, Fecal coliform bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1.a. Sludge Reopener

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-220 C., and 40 CFR 122.44 (c)(4), which note that all permits for domestic sewage treatment plants (including sludge-only facilities) include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Clean Water Act.

1.b. Water Quality Standards Reopener

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria.

1.c. Nutrient Reopener

Rationale: 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

1.d. Nutrient Removal Facilities Reopener

Rationale: 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

1.e. Total Maximum Daily Load (TMDL) Reopener

Rationale: For specified waters, section 303(d) of the Clean Water Act requires the development of total maximum daily loads necessary to achieve the applicable water quality standards. The TMDL must take into account seasonal variations and a margin of safety. In addition, section 62.1-44.19:7 of the State Water Control Law requires the development and implementation of plans to address impaired waters, including TMDLs. This condition allows for the permit to be either modified or, alternatively, revoked and reissued to incorporate the requirements of a TMDL once it is developed. In addition, the reopener recognizes that, in according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

2. Licensed Operator Requirement

Rationale: The Permit Regulation, 9 VAC 25-31-200 D and Code of Virginia 54.1-2300 et. seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators.

3. Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 12 VAC 5-581-20 and 120 for all municipal facilities.

4. CTC, CTO and O & M Manual Requirements

Rationale: Required by the State Water Control Law, Section 62.1-44.19; the Sewage Collection and Treatment Regulations (12 VAC 5-581 et seq); Section 401 of the Clean Water Act; 40 CFR 122.41(e); and the VPDES Permit Regulation (9 VAC-25-31-190E).
9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

5. 95% Design Capacity Notification

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.2. for all POTW and PVOTW permits. Best professional judgment is used to apply this condition to other (private) municipal treatment facilities.

6. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4.

7. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters with quantification levels and other limited parameters to ensure consistent, accurate reporting on submitted reports.

8. Effluent Monitoring Frequencies

Rationale: The incentive for reduced monitoring is an effort to reduce the cost of environmental compliance and to provide incentives to facilities which demonstrate outstanding performance and consistent compliance with their permits. Facilities which cannot comply with specific effluent parameters or have other related violations will not be eligible for this benefit. This is in conformance with Guidance Memorandum No. 98-2005 - Reduced Monitoring and EPA's proposed "Interim Guidance For Performance-Based Reduction of NPDES Permit Monitoring Frequencies" (EPA 833-B-96-001) published in April 1996.

9. Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

10. Sludge Management Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-420, and 40 CFR 503.1 specify the purpose and applicability for sludge management plans. The VPDES Permit Regulation, 9 VAC 25-31-100 J.4., also sets forth certain detailed information which must be included in a sludge management plan. The VPDES sewage sludge permit application form and its attachments constitute the sludge management plan and will be considered for approval with the VPDES permit. In addition, the Biosolids Use Regulation, 12 VAC 5-585-330 and 340, specifies the general purpose and control requirements for an O&M manual in order to facilitate proper O&M of the facilities to meet the requirements of the regulation.

11. Total Phosphorus/Total Nitrogen-Nutrient reporting calculations

Rationale: §62.1-44.19:13 of the Code of Virginia defines how annual nutrient loads are to be calculated; this is carried forward in 9 VAC 25-820-70. As annual concentrations (as opposed to loads) are limited in the individual permit, this special condition is intended to reconcile the reporting calculations between the permit programs, as the permittee is collecting a single set of samples for the purpose of ascertaining compliance with two permits.

12. Suspension of concentration limits for E3/E4 facilities

Rationale: 9 VAC 25-40-70 B authorizes DEQ to approve an alternate compliance method to the technology-based effluent concentration limitations as required by subsection A of this section. Such alternate compliance method shall be incorporated into the permit of an Exemplary Environmental Enterprise (E3) facility or an Extraordinary Environmental Enterprise (E4) facility to allow the suspension of applicable technology-based effluent concentration limitations during the period the E3 or E4 facility has a fully implemented environmental management system that includes operation of installed nutrient removal technologies at the treatment efficiency levels for which they were designed.

D. PRETREATMENT

Rationale: The permit regulation, 9 VAC 25-31-10 et seq., Part VII, establishes the legal requirements for State, local government and industry to implement National Pretreatment Standards. The Pretreatment Standards are implemented to prevent POTW plant pass through, interference, violation of water quality standards or contamination of sewage sludge. The regulation requires POTWs with a total design flow greater than 5 MGD with significant or categorical industrial input to establish a Pretreatment Program. The regulation also may apply to POTWs with design flows less than 5 MGD if circumstances warrant control of industrial discharges.

E. TOXICS MANAGENENT PROGRAM (TMP)

Rationale: To determine the need for pollutant specific and/or whole effluent toxicity limits as may be required by the VPDES Permit Regulation, 9 VAC 25-31-220 D. and 40 CFR 122.44 (d). See Attachment 8 of this fact sheet for additional justification.

ATTACHMENT 8

TOXICS MONITORING/TOXICS REDUCTION/ WET LIMIT RATIONALE

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard Virginia Beach, VA 23462

SUBJECT: Toxics Management Program (TMP) testing for HRSD-James River Plant (VA0081272)

TO: File

FROM: Deanna Austin

DATE: 5/4/12

COPIES:

HRSD-James River plant is a major municipal discharger (design flow 20 MGD) of treated domestic sewage. Discharge from outfall 001 to the Warwick River will continue to be monitored for toxicity during this permit term.

There has been no change in the dilution from the previous permit; therefore the nearfield (acute) dilution factor (35) remains the same. The following calculation shows how the TU_a was derived.

Acute dilution = $100/IWC_a$

35= 100/IWCa

$100/35 = 2.86\%\ IWC_a$

LC_{50}= IWC/Acute Water Quality Instream criterion

LC_{50}= 2.86/0.3 = 9.53% (round to 10% effluent)

$TU_a = 1/LC_{50} \times 100$

$1/10 \times 100 = 10$

$TU_a = 10$

The following table details the results of the TMP tests for the last permit term. Since all data met the LC_{50}, a WET limit is not needed at this time and annual TMP testing should continue.

OUTFALL	SPECIES	SAMPLEDT	LC50	SURVIVAL	TU	LAB
001	A.b.	5/6/08	>11.2	100	<8.9	HRSD
001	C.v.	5/6/08	>11.2	100	<8.9	HRSD
001	C.v.	8/11/09	>11.2	100	<8.9	HRSD
001	A.b.	8/11/09	>11.2	100	<8.9	HRSD
001	C.v.	10/26/10	>11.2	100	<8.9	HRSD
001	A.b.	10/26/10	>11.2	100	<8.9	HRSD
001	C.v.	9/27/11	>11.2	100	<8.9	HRSD

001	A.b.	9/27/11	>11.2	100	<8.9	HRSD
001	A.b.	1/27/12	>11.2	100	<8.9	HRSD
001	C.v.	1/27/12	>11.2	100	<8.9	HRSD

C.v. - *Cyprinodon variegatus*
A.b. - *Americamysis bahia*

The following TMP language is recommended for the reissuance of the HRSD-James River permit (VA0081272).

E. TOXICS MANAGEMENT PROGRAM (TMP)

1. Biological Monitoring

a. In accordance with the schedule in 2. below, the permittee shall conduct annual acute toxicity tests for the duration of the permit. The permittee shall collect 24-hour flow-proportioned composite samples of final effluent from outfall 001 in accordance with Part 1.A. of this permit. The acute tests to use are:

48 Hour Static Acute test using Americamysis bahia and
48 Hour Static Acute test using Cyprinodon variegatus

These acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for the calculation of a valid LC_{50}. Express the results as TU_a (Acute Toxic Units) by dividing 100/ LC_{50} for reporting. Both species should be analyzed at the same time from the 24-hour flow-proportioned composite sample. Toxicity samples shall be taken at the same time as the other chemical parameter monitoring listed in Part I.A. of this permit for outfall 001.

Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

b. The permittee may provide additional samples to address data variability during the period of initial data generation. These data shall be reported and may be included in the evaluation of the effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c. The test dilutions shall be able to determine compliance with the following endpoints:

(1) Acute LC_{50} of 10% equivalent to a TU_a of 10

d. All applicable data will be evaluated for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should evaluation of the data indicate that a limit is needed, a WET limit and compliance schedule will be required and the toxicity tests of D.1.a. may be discontinued.

2. Reporting Schedule

The permittee shall report the results and supply **one** complete copy of the toxicity test reports to the Tidewater Regional Office in accordance with the schedule below.

(a)	Conduct first annual TMP test for outfall 001 using Americamysis bahia and Cyprinodon variegatus	By December 31, 2014
(b)	Submit results of all biological tests	Within 60 days of the sample date and no later than January 10, 2015
(c)	Conduct subsequent annual TMP tests for outfall 001 using Americamysis bahia and Cyprinodon variegatus	By December 31, 2015, 2016, and 2017
(d)	Submit subsequent annual biological tests	Within 60 days of the sample date and no later than January 10, 2016, 2017, and 2018

ATTACHMENT 9

RECEIVING WATERS INFO./ TIER DETERMINATION/STORET DATA/ STREAM MODELING

303(d) LISTED SEGMENTS

Planning Permit Review

Date: 4/18/2012

To: Jen Howell for Kristie Britt, TRO

Permit Writer: Deanna Austin

Facility: HRSD-James River STP

Permit Number: VA0081272

New or Renewal: Renewal

Permit Expiration Date: 1/27/2013

Waterbody ID: VAT G11 E James River/Warwick River for Outfall 001

Topo Name: 066D Mulberry Island

Facility Address 111 City Farm Rd Newport News, VA 23602

Receiving Stream:

Stream Name: Warwick River-Outfall 001	
Click here to enter text.	
Stream Data Requested?	
Outfall #: 001	**Lat Lon: 37 04 22 76 32 23**
Stream Name (2): Click here to enter text.	
All stormwater outfalls are not monitored-No Exposure Certifications have been given-No need for a tier determination	
Stream Data Requested? Click here to enter text.	

Planning Review:

303 (d): Indicate Outfalls which discharge directly to an impaired (Category 5) stream segment	
Outfall 001 discharges to impaired segment VAT-WWK03A08. Impairments include DO-Open Water and PCBs (Shellfish Use removed).	
Click here to enter text.	
Tier Determination	
Tier	The receiving stream is a Tier 1 water due to the impairments. See Attachment 1
Tier	
Management Plan	
Is the facility Referenced in a Management Plan?	Yes, this facility is listed in the Virginia Water Quality Management Plan (VAC25-720-60C)
Are limits contained in the Management Plan?	Yes: TN 1,250,000 lbs/yr and TP 60,911 lbs/yr

Review will be completed in 30 days of receipt of request.

Additional Comments:

JSH 4/24/2012

TMDL Permit Review

Date: 4/18/2012

To: Jennifer Howell, TRO √ JSH 4/24/2012

Permit Writer: Deanna Austin

Facility: HRSD-James River STP

Permit Number: VA0081272

New or Renewal: Renewal

Permit Expiration Date: 1/27/2013

Waterbody ID: VAT G11 E James River/Warwick for Outfall 001

Topo Name: 066D Mulberry Island

Facility Address 111 City Farm Rd Newport News, VA 23602

Receiving Stream:

Stream Name: Warwick River-Outfall 001	
Click here to enter text.	
Stream Data Requested? Click here to enter text.	
Outfall #: 001	**Lat Lon: 37 04 22 76 32 23**
Stream Name (2): Click here to enter text.	
All stormwater outfalls are not monitored-No Exposure Certifications have been given	
Stream Data Requested? Click here to enter text.	

Is there a design flow change? If yes give the change. No change

TMDL Review:

Has a TMDL been approved that includes the receiving stream?	
Yes, see below	
If yes, Include TMDL Name, Pollutant(s) and date of approval:	
1. Chesapeake Bay TMDL: EPA approved 12/29/2010; nitrogen, phosphorus, and TSS 2. Fecal Bacteria Total Maximum Daily Load Development for Warwick River – Primary Contact Recreation Use and Shellfish Harvesting Use; EPA approved 2/29/2008, SWCB approved 4/28/2009; fecal coliform, E.coli, enterococci	
Is the facility assigned a WLA from the TMDL?	See notes below
If Yes, what is the WLA?	
1. VA0081272 was listed in the Chesapeake Bay TMDL under Bay segment JMSMH as a non-significant discharger. Because an aggregated WLA exists, this permit did not receive an individual WLA. The aggregated WLA is presented as a delivered load for each of the impaired 92 Bay segments. (Appendix Q) 2. A fecal coliform WLA was assigned to VA0081272 as 2.31E+13 cfu/yr. However, in the 2010 Integrated Assessment Report, the Shellfish Harvesting Use was removed from this segment.	

Review will be completed in 30 days of receipt of request.

Additional Comments:

A PCB TMDL for the tidal James River and tributaries has an anticipated completion date of 2014.

James River Basin

Cause Group Code / Impaired Use	Water Name / Cause	Cause Category	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)	Initial List Date	TMDL Dev. Date
J16R-02-PH	Blackman Creek						
Aquatic Life	pH	5C			4.45	2004	2016
J17L-01-DO	Swift Creek Lake						
Aquatic Life	Oxygen, Dissolved	5A		102.42		2006	2018
J17R-01-BEN	Swift Creek						
Aquatic Life	Benthic-Macroinvertebrate Bioassessments	5A			7.10	2010	2022
J17R-01-DO	Swift Creek						
Aquatic Life	Oxygen, Dissolved	5A			7.10	2002	2014
J17R-03-PH	Franks Branch						
Aquatic Life	pH	5C			10.02	2006	2018
J17R-05-PH	Church Branch						
Aquatic Life	pH	5C			2.56	2010	2022
J17R-06-DO	Nuttree Branch						
Aquatic Life	Oxygen, Dissolved	5C			5.31	2010	2022
J17R-06-PH	Nuttree Branch						
Aquatic Life	pH	5C			5.31	2010	2022
J17R-07-PH	Second Branch						
Aquatic Life	pH	5C			5.84	2010	2022
J17R-08-DO	Swift Creek						
Aquatic Life	Oxygen, Dissolved	5A			3.66	2010	2022
J17R-09-BEN	Swift Creek						
Aquatic Life	Benthic-Macroinvertebrate Bioassessments	5A			2.79	2010	2022
J17R-10-PH	Timsbury Creek						
Aquatic Life	pH	5C			6.65	2010	2022
J17R-11-PH	Long Swamp						
Aquatic Life	pH	5C			3.65	2010	2022
JMSMH-DO-BAY	James River CBP segment JMSMH and Tidal Tributaries						
Aquatic Life	Oxygen, Dissolved	5A	100.143			1998	2010
	Oxygen, Dissolved	5A	18.371			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	100.143			1998	2010
	Oxygen, Dissolved	5A	18.371			2006	2010
JMSOH-DO-BAY	James River CBP segment JMSOH and Tidal Tributaries						
Aquatic Life	Oxygen, Dissolved	5A	48.740			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	2.212			2006	2010
JMSPH-BNUT-BAY	James River CBP segment JMSPH and Tidal Tributaries						
Aquatic Life	Nutrient/Eutrophication Biological Indicators	5A	25.011			2010	2010

2010 Impaired Waters - 303(d) List

Category 5 - Waters needing Total Maximum Daily Load Study

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

James River Basin

Cause Group Code / Impaired Use	Water Name / Cause	Cause Category	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)	Initial List Date	TMDL Dev. Date
APPTF-SAV-BAY	Appomattox River						
Aquatic Life	Aquatic Plants (Macrophytes)	5A	2.705			2006	2010
Shallow-Water Submerged Aquatic Vegetation	Aquatic Plants (Macrophytes)	5A	2.705			2006	2010
EBEMH-DO-BAY	Eastern Branch Elizabeth River, Broad Creek and Indian River						
Aquatic Life	Oxygen, Dissolved	5A	2.287			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	2.287			2006	2010
ELIPH-DO-BAY	Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)						
Aquatic Life	Oxygen, Dissolved	5A	8.162			2006	2010
Open-Water Aquatic Life	Oxygen, Dissolved	5A	8.162			2006	2010
G01E-01-BAC	James River						
Recreation	Escherichia coli	5A	1.466			1996	2010
	Escherichia coli	5A	2.828			2006	2010
	Escherichia coli	5A	1.964			2008	2010
G01E-02-CHLA	James River						
Aquatic Life	Chlorophyll-a	5A	5.512			2008	2010
Open-Water Aquatic Life	Chlorophyll-a	5A	5.512			2008	2010
G01E-03-PCB	James River and Various Tributaries						
Fish Consumption	PCB in Fish Tissue	5A	62.773			2002	2014
	PCB in Fish Tissue	5A	1.837			2004	2016
	PCB in Fish Tissue	5A	191.816			2006	2018
	PCB in Fish Tissue	5D			7.50	2006	2018
	PCB in Fish Tissue	5A	0.012			2008	2014
	PCB in Fish Tissue	5A	0.003			2010	2018
G01L-01-BAC	Falling Creek Reservoir						
Recreation	Escherichia coli	5A		88.37		2008	2020
G01L-01-PH	Falling Creek Reservoir						
Aquatic Life	pH	5C		88.37		2010	2022
G01R-01-BAC	Goode Creek						
Recreation	Escherichia coli	5A			1.25	2006	2014
G01R-02-BAC	Almond Creek						
Recreation	Escherichia coli	5A			2.36	2006	2010
G01R-02-PH	XVO and XVP (Almond Creek, UTs)						
Aquatic Life	pH	5A			0.54	2004	2016
G01R-03-BAC	Falling Creek						
Recreation	Escherichia coli	5A			3.11	2006	2014
G01R-04-BAC	Falling Creek						
Recreation	Escherichia coli	5A			16.99	2006	2018
G01R-04-DO	Falling Creek						
Aquatic Life	Oxygen, Dissolved	5A			0.98	2008	2020

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

Cause Group Code: **JMSMH-DO-BAY** **James River CBP segment JMSMH and Tidal Tributaries**

Location: This cause encompasses the entirety of the James River CBP segment JMSMH and tidal tributaries. From start of JMSMH salinity boundary (Hog Island Creek) downstream to line between Blunt Point NN) /Goodwin Pt. (Isle of Wight). CBP segment JMSMH.

City / County: Isle Of Wight Co. James City Co. Newport News City Portsmouth City Suffolk City
Surry Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The 30-day dissolved oxygen criteria for Open Water Use failed for the 2008 assessment. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use. The mainstem James River was included in EPA's 1998 303(d) Overlisting as impaired of the Aquatic Life Use; the impairment was attributed to excessive nutrients. During the 2006 cycle, the revised Chesapeake Bay water quality standards were adopted.

1998 CD segment for nutrients (Attachment A, Category 1, Part 2) VAT-G10E-04.

James River CBP segment JMSMH and Tidal Tributaries **Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Oxygen, Dissolved - Total Impaired Size by Water Type:	**118.514**		

James River CBP segment JMSMH and Tidal Tributaries **Open-Water Aquatic Life**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Oxygen, Dissolved - Total Impaired Size by Water Type:	**118.514**		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

Cause Group Code: **G01E-03-PCB** **James River and Various Tributaries**

Location: Estuarine James River from the fall line to the Hampton Roads Bridge Tunnel, including several tributaries listed below: Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

City / County:

Charles City Co.	Chesapeake City	Chesterfield Co.	Colonial Heights City	Dinwiddie Co.
Hampton City	Henrico Co.	Hopewell City	Isle Of Wight Co.	James City Co.
New Kent Co.	Newport News City	Norfolk City	Petersburg City	Portsmouth City
Prince George Co.	Richmond City	Suffolk City	Surry Co.	Virginia Beach City
Williamsburg City				

Use(s): Fish Consumption

Cause(s) / VA Category: PCB in Fish Tissue / 5A PCB in Fish Tissue / 5D

The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs fish tissue contamination within the James River and select tidal tributaries, issued 12/13/04. During the 2002 cycle, the James River from the Fall line to Queens Creek was considered not supporting of the Fish Consumption Use due to PCBs in multiple fish species at multiple DEQ monitoring locations.

During the 2004 cycle, a VDH Fish Consumption Restriction was issued from the fall line to Flowerdew Hundred and the segment was adjusted slightly to match the Restriction.

However, during the 2006 cycle, the restriction was extended on 12/13/2004 to extend from the I-95 bridge downstream to the Hampton Roads Bridge Tunnel and include the tidal portions of the following tributaries:

Appomattox River up to Lake Chesdin Dam
Bailey Creek up to Route 630
Bailey Bay
Chickahominy River up to Walkers Dam
Skiffes Creek up to Skiffes Creek Dam
Pagan River and its tributary Jones Creek
Chuckatuck Creek
Nansemond River and its tributaries Bennett Creek and Star Creek
Hampton River
Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St. Julian Creek, Deep Creek, and Broad Creek

Appendix A - List of Impaired (Category 5) Waters in 2010

James River Basin

The advisory was modified again on 10/10/2006 to add Poythress Run.

James River and Various Tributaries **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	**256.441**		**7.50**

Sources:

Contaminated Sediments	Source Unknown	Sources Outside State Jurisdiction or Borders

ATTACHMENT 10

TABLE III(a) AND TABLE III(b) - CHANGE SHEETS

TABLE III(a)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

F OTHER CHANGES:	COMMENTS:	DATE & INITIAL
Changed boilerplate language to include the VELAP information		5/4/12 DDA
Changed special condition C.11 (Sludge Management Plan) to not have a VDH reference since they no longer are involved in the program.		5/4/12 DDA
QL changed for BOD from 5 mg/l to 2 mg/l.	Changed to be consistent with other HRSD permits.	5/4/12 DDA

TABLE III(b)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001					

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 11

EPA PERMIT CHECKLIST

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: HRSD-James River STP

NPDES Permit Number: VA0081272

Permit Writer Name: Deanna Austin

Date: 5/4/12

Major [X] **Minor** [ ] **Industrial** [ ] **Municipal** [X]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?	X		
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
I.B. Permit/Facility Characteristics - cont.	**Yes**	**No**	**N/A**
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	

6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?	X		
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs

(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits - General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "ant backsliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
II.D. Water Quality-Based Effluent Limits – cont.	**Yes**	**No**	**N/A**
3. Does the fact sheet provide effluent characteristics for each outfall?	X		

4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			X
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			X
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?		X	
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?	X		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?	X		

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset
Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Deanna Austin
Title	Environmental Specialist Senior II
Signature	
Date	5/4/12

ATTACHMENT 12

CHRONOLOGY SHEET

Chronology

Friday, May 04, 2012

Facility Name: Facility Name HRSD - James River STP NPID VA0081272

Event	*Date*	*Comment*
Event:	—	Comment
Application fee deposited:	—	NA-Reissuance
Comments rec'vd from State Agencies on App:	—	4/26/12 VDH
First Application Reminder Phone Call:	—	NA-App received 4/17/12
Second Application Reminder Phone Call:	—	NA-App received 4/17/12
Site visit:	— 5/18/2011	Performed by Mark Kidd
Site inspection report:	— 5/19/2011	
First DMR due:	— 3/10/2012	
Application Administratively complete:	— 4/17/2012	
Application received at RO 1st time:	— 4/17/2012	
Public notice authorization received from owner:	— 4/17/2012	
App sent to State Agencies (list in comment field):	— 4/18/2012	VDH DSS VMRC
App complete letter sent to permittee:	— 5/2/2012	
Application totally / technically complete:	— 5/2/2012	
Draft permit developed:	— 5/4/2012	
Old expiration date:	— 1/27/2013	
Permit effective:	— 1/28/2013	
Permit expires:	— 1/27/2018	